A study of school attendance and exclusions in secondary schools in England

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ABSTRACT

This study explores the links between school attendance, exclusions, and subsequent academic attainment at age 16 in mainstream schools in England. For this research, school attendance is defined as school-aged children attending school regularly. School exclusion is the removal of school-aged children from school either for fixed terms or permanently. Academic attainment for this research refers to the final exam results at the end of Key Stages 2, 3, and 4.

Three different approaches were used. A detailed longitudinal approach, modelling the course of one age cohort of 554,145 pupils from the National Pupil Database (NPD), through their entire schooling to the age of 16 in different analytical steps using cross-tabulations, 'effect' sizes, correlations, and regression models. The analysis draws on secondary data in which indicators from the NPD were included to explain the outcomes. The main outcomes were the school attendance rate, exclusion pattern, and academic attainment for Key Stage 4. A systematic review was conducted of the evidence published over the last 20 years on school attendance interventions that have targeted disadvantaged pupils. This began by rating the obtained evidence from the included studies, following a well-developed sieve to judge the quality of evidence. The subsequent descriptive analysis includes a description of the included studies. The included interventions were also described in terms of their implementation protocols and categorised into financial interventions, counselling and mentoring, out of school educational programmes, health, school reforms, parental involvement, and school engagement for the disadvantaged children. Following this, the evidence obtained from these studies was complemented through semi-structured interviews with 10 primary and secondary school teachers that have lengthy experience of dealing with school attendance challenges.

The robust analysis of the NPD showed that eligibility for Free School Meals (FSM), a measure of poverty, is the main predictor of school attendance, exclusions, and academic attainment. Prior academic attainment (KS2 and KS3 Maths and English attainment) are more strongly associated with academic attainment at KS4 (GCSEs results) than school attendance. The interview results confirmed this finding. The review results suggest that financial interventions that support parents of disadvantaged children with regular stipends could promote school attendance among the disadvantaged.

The findings of this study entail a number of implications for policy and practice. Addressing the needs of disadvantaged groups of pupils through effective interventions, including regular cash payments to parents or carers, could promote the school attendance of these pupils and inspire their families to become more engaged with their children's education, thereby enhancing their academic attainment. In terms of school exclusions, the current school data seems ineffective in illustrating the issue of school exclusions. Therefore, school exclusions data should be developed in a way that enables researchers to investigate the possible gaps in how schools conceive and implement exclusions.

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LIST OF ABBREVIATIONS

ADCS	Association of Directors of Children's Services
AP	Alternative Provision
BESD	Behavioural, Emotional, and Social Difficulties
BiP	Behaviour Improvement Programme
CG	Controlled Group
CQC	Care Quality Commission
CS	Community School
DCSF	Department for Children, Schools, and Families
DfE	Department for Education
DfES	Department for Education and Skills
DSS	Document Summary Service
EAL	English as an Additional Language
EAZ	Education Action Zone
EiC	Excellence in Cities
ELA	English Language and Arts
FSM(s)	Free School Meal(s)
GCSE	General Certificate of Secondary Education
HE	Higher Education
IDACI	Income Deprivation Affecting Children Index
IPPR	Institute for Public Policy Research
ITE	Initial Teacher Education
KS2	Key Stage 2
KS4	Key Stage 4
LAC	Looked After Children
LAs	Local Authorities
LSYPE	Longitudinal Study of Young People in England
MIDs	Moderate Learning Difficulties
NPD	National Pupil Database
OCC	Office of the Children's Commissioner
OECD	Organisation for Economic Co-operation and Development
Ofsted	Office for Standards in Education, Children's Services and Skills

PISA	Program for International Student Assessment
PIASC	Pupil Level Annual School Census
PRUs	Pupil Referral Units
QES	Quasi-Experimental Study
RCT	Randomised Control Trial
RM	Resource Management
RQ	Research Question
SD	Standard Deviation
SEN	Special Educational Needs
SEND	Special Educational Needs and Disability
TG	Treated Group

Declaration of originality

I hereby declare that all the work presented in this thesis is my own unless stated otherwise within the text or acknowledged accordingly within the references. The data has not been submitted previously for any alternative degrees.

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DEDICATION

I dedicate this piece of work to my mother and my late father, both of whom who gave me more than I realised: long may they live! “My Lord! Bestow on them Your mercy as they cherished me in childhood”. I also dedicate it to my husband and my children, and to every member of my family.

CHAPTER 1 INTRODUCTION

The study was inspired by my interest in the challenges of school attendance and exclusions, a subject which is both topical and controversial. This introductory chapter first provides a brief background to this PhD research project exploring the current issues around school attendance and exclusions in the mainstream education system in England. It then presents the research questions and the scope of the study. Finally, a chapter-by-chapter outline of the thesis is given.

1.1 Background to the study

1.1.1 School attendance in England

Levels of school attendance and exclusions have become a focus of government interest in recent decades. In 2004, David Miliband, the then schools minister, wrote a letter to the directors of local authorities, noting that it is "because of the strong link between attendance and attainment – and also because of the well-known links between truancy and street crime and antisocial behaviour – that government sees reducing absence from school as a priority" DfES (2004c). The same concern was reiterated in a House of Commons Committee of Public Accounts (2006) report, which stated that, "Regular absence from school is damaging, making a young person much more likely to leave school with few or no qualifications and potentially vulnerable to involvement in crime and anti-social behaviour" (p.3).

This belief, in a causal link between school absences and academic progress on one hand, and between absences from school and antisocial behaviour and crime, on the other hand, has led to increasing school attendance targets to keep children in schools in a bid to address both problems (Sheppard, 2011). The pressure on schools to raise their attendance rates has led to tougher attendance policies. For example, in an email one grammar school told its A-level pupils not to ask for authorised absence even in cases of sickness:

> *Dear All,*
>
> *We are increasingly concerned over the amount of lessons that are being missed due to 'illness'. Whilst we all have genuine reasons and illnesses in our lives-being hot, feeling slightly faint, headaches, tummy aches and generally feeling slightly low are not excuses to miss crucial lessons.*

Yorke summed up this email with the old adage, “Suck it up, cupcake” (Yorke, 2017). This approach contributes to putting more pressure on pupils, who are forced to attend classes (or face punitive measures) even when they are not well.

Many strategies and initiatives have been introduced to reduce school absences and improve pupil attendance and behaviour, such as the Behaviour Improvement Programme (BiP) and Excellence in Cities (EiC), both of which target pupils’ attendance and behaviour (Morris & Rutt, 2004). Other initiatives were established to tackle the specific problem of underachievement and social exclusion, such as Education Action Zones (EAZs), a partnership comprising a set of schools and their Local Authority (LA) and other organisations targeted at helping pupils from disadvantaged areas (Ofsted, 2003). In sum, millions of pounds have been dedicated to raising the attendance rates of schools (Sheppard, 2011).

The key questions raised by these introductory remarks are, who are these absentees? Do they have common characteristics? And, do all schools have equal patterns of pupil absenteeism and exclusion? Over the years, disadvantaged children have repeatedly been seen as most likely to be persistent absentees in official data (DfE, 2015c). The common characteristics of persistent absentees are that they live in a family with one parent and are likely to come from a household where the head is not in any form of employment (DfE, 2011b). PAs are more likely to be bullied, excluded from school and/or be involved in risky behaviours such as drug and alcohol abuse, compared to other pupils. The majority of these children are school mobile (for example, from Irish traveller or Gypsy Roma families), eligible for Free School Meals (FSMs), or have Special Educational Needs (SEN) pupils (DfE, 2011b).

For approximately 10 years, LAs have fed the national and local press to generate news stories about prosecutions and fines for parents who have consistently failed to ensure their children regularly attend school. This high-profile publicity drive sent out a tough and clear message to the parents and the community in general that ‘truancy will not be tolerated’ (Zhang, 2004, p. 27). However, the Guardian newspaper claimed that DfE figures showed a “sharp increase [of] nearly 60,000 pupils” taking term-time holidays compared to the previous year, and “nearly 330,000 children” had been recorded as missing school because of unauthorised family holidays in the 2016 autumn term (Adams, 2017). These press reports on school attendance have undoubtedly served to give people the impression that ‘irresponsible parents’ are

impeding the system of compulsory education in the country, leading in turn to detrimental effects on civil society (Zhang, 2004).

At the same time, the results of analysis by the DfE suggested that every day in school matters in term of academic attainment (DfE, 2016b). However, the factuality of this claim is debatable. Gorard (2016), for example, argued that absence from school is not the root cause of poor academic attainment and that the issue of school attendance and attainment is complex and multifaceted. Indeed, the inter-connections between school and home factors contribute significantly to school absences. But what about school exclusions?

1.1.2 School exclusions in England

An analysis by the Programme for International Student Assessment (PISA) showed that England is a country suffering from high exclusion rates (économiques, 2017). Media reports have shown how the issue of school exclusions is deteriorating and becoming more complex. For example, TES claimed recently that "permanent exclusions have skyrocketed by as much as 300% in a year" (Bloom, 2017). According to the same source, the rapid increase in school permanent exclusion rates where children are permanently expelled from school was due to financial and academic pressures on schools. Another report, this time in the Guardian newspaper and titled, 'She deserves an education: outcry as academy excludes 41% of pupils' (Perraudin & McIntyre, 2018) raised concerns about the increase in fixed-term exclusions within schools in England where children are suspended from school for a period of time. The Guardian newspaper also reported an article under the title 'Wild west system of school exclusions is failing pupils, say MPs' (Weale, 2018). In sum, from some quarters school exclusions were actually viewed as worsening the situation instead of contributing to a solution to behavioural problems, as the policy was intended to promote. School exclusions seemed to be divesting excluded pupils from their right to an education. According to Timpson's review recently published by the DfE, "Exclusion from school should never mean exclusion from education". (DfE, 2019b, p. 6). The author called for a more consistent approach that ensures a good education for all children despite their needs and type of schools they attend.

The findings of a report by Ofsted and the Care Quality Commission (CQC) on their inspection of the effectiveness of LAs' support of children with Special Educational Needs and Disabilities (SEND) indicated that such children experienced a lower quality education and

there were instances when "some school leaders had used unofficial exclusions too readily to cope with children and young people who have SEND" (Ofsted Care Quality Commission, 2017, p. 5). Furthermore, according to a TES publication based on an interim survey, "1 in 5 teachers are aware of illegal SEND exclusions" within the schools where they work (Hazell & Ward, 2017). The official figures for school exclusions showed that a high proportion of school excluded pupils came from disadvantaged groups of children (DfE, 2016d). Thus, there is a probability that a strong connection exists between school exclusions and children with SEN. It is thus worthwhile exploring the association between school exclusions and SEN.

The most recent Commons Education Committee report claims that many pupils are excluded from schools as a punishment for minor incidents (House of Commons Education Committee, 2018). It was pointed out by a cross-party committee of MPs that increasingly unnecessary exclusions mean that more children are 'abandoned' to study in Alternative Provision (AP) environments which might not offer the education that they need to flourish. Moreover, according to a member of the Commons Education Committee, the misuse of zero-tolerance behaviour policies can be at least partly blamed for the high increase of school exclusions (House of Commons Education Committee, 2018). The same report identified a 'lack of moral accountability' in some schools. The government was asked to address the problem of off-rolling within schools, a process whereby some pupils are removed from the school register before sitting their GCSE exams so the school can game league tables scores (House of Commons Education Committee, 2018). In Timpson's review on exclusions, the author warned there were many variations in the use of exclusions and many alternative opportunities were missed to avoid school exclusions (DfE, 2019b). These arguments around exclusions within schools were highlighting the inequity of school exclusions and the misuse of school exclusion policies to achieve certain purposes such as higher exam performance rates. From the vantage point of considering school attendance and exclusions and how both issues appear to be associated with academic attainment, the potential significance of this study emerged.

1.2 The significance of the study

In England, schools and parents find themselves under pressure due to the high attendance targets that the government requires. Parents have taken to the courts to appeal against fines imposed by the Department for Education (DfE) because of lapses in their children's school attendance rate. Considerable media attention has been devoted to the issue of school

attendance and exclusions in England, particularly after the recent rise in school absences and exclusion rates within the mainstream schools. As increasing the rate of school attendance, reducing the rate school exclusions, and improving academic attainment are priorities for UK educational policy, there is an urgent need to explore relationships between school attendance, school exclusions, and academic attainment.

This study is significant because it focuses on Key Stage 4 pupils in all mainstream schools in England. A large dataset was used in this PhD research programme in order to maximise the applicability of the findings. The data set is the National Pupil Database (NPD), the richest collection of data on pupils' school attendance, exclusions, and academic attainment. This database also provides important key background information on the pupils, and this study drew on the least sensitive characteristics: age, gender, ethnicity, SEN information, FSM, and language group.

The NPD is secondary data that offers a pre-established degree of reliability and validity. Secondary evidence can be just as useful as primary evidence, and cheaper and easier to access (Gorard, 2001). Therefore, using administrative secondary data analysis can save time and provide a large and high-quality database which may not be feasible for any individual research.

KS4 is a critical stage in pupils' educational progress. The commonest academic marker at the end of KS4, the General Certificate of Secondary Education (GCSE), is an indicator of future educational progress. Indeed, GCSE results play a crucial role in a pupil's academic journey as they can affect subsequent courses taken and the A Level or other qualifications, eligibility for applying to university (and university course options), and, finally, career prospects (Gardner, 2018). Hence an in-depth investigation of school absences and exclusions at this most important stage of a child's education adds to the significance of the study.

Adopting a longitudinal design to research to determine variable patterns over time, the data analysis starts from a simple descriptive analysis to explore the dataset before progressing to complex regression models. Regression models were constructed to predict the relationships between school attendance, exclusions, and academic attainment. Ascertaining the likely determinants of these outcomes is crucial if we are to reach a more comprehensive

understanding of the main indicators of school attendance, exclusions, and academic attainment at this most critical stage of pupils' education.

This research project did not overlook pupils' missing data related to their school attendance, academic attainment, and family background. I considered this data from the earliest stages of analysis in order to become aware of any contribution(s) that this data may make to the study's findings. Little research has dealt seriously with missing data and investigated its potential impact on the findings of research in this field. In this study, missing data in each indicator were treated according to the *type* of indicator. In the regression models, missing data were treated as a further category to be considered in the results (see Chapter 6 for more detail).

Reviewing school attendance interventions systematically, a further objective of the study is to explore available evidence on policy and practice about effective – and tailored - school interventions that target disadvantaged pupils in order to promote school attendance and enhance their academic attainment. The studies drawn upon here were randomised controlled experiments and quasi-experimental studies designed to examine relationships between the implemented programmes and their outcomes. The analysis of the available evidence starts with a descriptive analysis of the studies and interventions included in the review, and is followed by a comparison between the obtained evidence.

In addition, the perceptions of school teachers of the school attendance by pupils from disadvantaged backgrounds were explored using small scale interviews with 10 school teachers who have experience working with school attendance issues within their schools. Although this part of the research is a relatively minor additional step, it is anticipated that exploring the views of people actually working 'on the front lines' will contribute to the reliability of the study's findings.

This PhD research project, then, is expected to be a significant contribution to this study field in terms of data sources, design and methods, and objectives.

1.3 Research Questions

The research questions (RQs) addressed in this study are:

- Which pupils in England are recorded as absent, persistently absent, and/or excluded from school?
- To what extent do pupils' background characteristics and prior attainment and school-type predict authorised absences, unauthorised absences, and/or exclusions from school?
- To what extent is absence, persistent absence, and/or exclusion from school linked to pupils' academic attainment at KS4, once background characteristics and prior attainment are accounted for?
- Is there any evidence of effective interventions that have improved the school attendance behaviours of disadvantaged pupils and also has a positive impact on their academic attainment?
- What are the perceptions of teachers in England regarding school attendance by disadvantaged pupils?

These questions are addressed through three different approaches. The first three RQs are explored through an analysis of the NPD, which has data on 554,145 pupils in KS4 at state schools (excluding special schools) in England. To investigate the fourth RQ, a systematic review of the research into school attendance interventions published in the most popular databases such as British Education Index, Eric, Scopus, Web of Science, PsycINFO, Education Abstracts (H.W. Wilson), Educational Administration Abstracts, ProQuest Dissertation and Theses Global database, Google Scholar, Dissertation Abstracts, and media sources over the last two decades. The final RQ is considered through the use of semi-structured interviews with 10 school teachers working in primary and secondary schools in England.

1.2 The scope of the study

This study is the first nationwide UK study to adopt a three-stage approach to research the determinants of and relationships between school attendance, exclusions, and academic attainment. The purpose of this three-stage research project is to identify and investigate the determinants of school attendance, exclusions, and academic attainment for pupils by the age of 16. Longitudinal data was requested from the NPD to answer most of the research questions

of the study. This rich dataset contains an immense amount of statistics related to school attendance, exclusions, and the academic performance of pupils at different Key Stages, in addition to background data on those pupils, data which is widely referred to in the literature which has explored the issues of school attendance, exclusions, and academic attainment. The data included in the study covers KS2, KS3, and KS4. The academic attainment data for KS1 was provided but not included in this study due to the lack of school attendance and exclusions data at that level.

The patterns of school attendance and exclusions which emerged from an analysis of this data led to an investigation of the existing evidence of school attendance interventions. I searched several of popular databases and grey literature for evidence that examined the effectiveness of school attendance interventions in promoting the school attendance of disadvantaged pupils and enhancing their academic attainment because of attendance issues. The quality of the obtained evidence is discussed and compared to come up with the most rigorous evidence-based on certain criteria (see Chapter 2 for more detail). I was helped by two research experts in evaluating the obtained evidence. This analysis has been limited to descriptive analysis and was not gone further to a meta-analysis due to the different definitions used for school attendance and the disadvantaged among the included studies. The results of the review led to the last stage of the study.

Semi-interviews with 10 school teachers who have experience of working with school attendance issues, especially with pupils from disadvantaged backgrounds were conducted.The main purpose was to explore the perceptions of 'frontline' workers (i.e. school teachers) with hands-on experience of school attendance issues and evaluate which interventions school teachers to consider useful to promote school attendance, especially that of pupils from disadvantaged backgrounds.

1.3 Structure of the thesis

The study is divided into 10 chapters.

Chapter 1 (Introduction) has presented the background to the study in terms of school attendance and exclusion challenges in England by discussing the main concerns of the government and researchers in the field. It then sketched briefly the role of the media in

depicting school attendance and exclusions. This was followed by an outline of what makes this study significant. Finally, an outline of the thesis, together with a brief summary of the main contents of each chapter, was presented.

Chapter 2 discusses the main controversies and debates on school absences and exclusions in order to set out the related concepts and the definitions and types of school absenteeism as they have evolved over time.

Chapter 3 presents the policies which have been devised and implemented to combat the problems of school attendance and exclusions and reviews the procedure for excluding a pupil from a school. The various types of school in England and the Key Stages at primary and secondary levels are illustrated. This chapter also maps out published patterns of school attendance and exclusions in England. Finally, the chapter explores how the academic attainment of pupils is measured at different Key Stages.

Chapter 4 addresses the main aspects and factors covered in the existing literature on school attendance. The link between school attendance and academic attainment and then behaviour is examined. The chapter discusses the determinants of school attendance and possible causes of school absences and identifies. Home-schooling is briefly discussed. Then, school attendance interventions are explored.

Chapter 5 looks at the determinants of school exclusions. Notable existing gaps in school exclusions policies and data are discussed according to what was found in the literature on the topic. The chapter highlights a number of concerns related to school exclusions, such as the overrepresentations of disadvantaged children in school exclusion records and the costs of school exclusions, both to the individual, his/her family, and to the wider society. Finally, possible alternatives to school exclusions are discussed.

Chapter 6 details the study's research design framework, the sources of data, and the methods deployed to address the research questions, including the statistical analyses. The choices are justified and discussed in relation to the instruments employed, including the choice of the study dataset, the analytical tests deployed, and the quality of the indicators. The chapter sets

out the three stages of the research and provides summaries of the choices and procedures used to examine and answer the research questions.

Chapter 7 presents the results of the analysis of the NPD. It explains the patterns of school attendance and exclusions which emerged from the data analysis and presents any identified associations with all known indicators. Finally, the regression models of school attendance, exclusions, and academic attainment are presented and discussed.

Chapter 8 presents the results obtained from the systematic review of school attendance interventions. The chapter also presents a description of school attendance interventions and discusses the overall evidence from those interventions.

Through semi-structured interviews, Chapter 9 explores the perceptions of school teachers about the school attendance rates of disadvantaged pupils and discusses the main findings emerging from the interviews. Then, the views of key school personnel and their attempts to overcome the challenges of school attendance are discussed, and a number of school attendance interventions which have been implemented are analysed.

The final chapter, Chapter 10, states the conclusions of the main findings of the study by considering them in light of the research questions set out in Chapter 1. The study's limitations are acknowledged, and possible future research directions based on this study's findings are sketched. Finally, a number of implications raised by this study for policymakers and schools are noted.

CHAPTER 2 CONCEPTUAL BACKGROUND TO THE STUDY

This chapter presents the different definitions and categorisations of school attendance and exclusion. The first section explores the concepts used to define and study school attendance. The second section explores the different concepts used to define school exclusions.

2.1 Defining school attendance

Different terminologies are used often interchangeably in research on school attendance. The most common used terms are truancy and school absenteeism (Strand, 2014). However, school absenteeism is also used as an umbrella concept that covers truancy. This research draws on both terms to refer to school absences.

Over the years, truancy has been considered a type of school absenteeism in the academic literature (Malcolm et al., 1996). The UK government defines truancy as pupils' unauthorised absence (Reid, 2002b). Stoll defined it as absence 'without legitimate reason' (Stoll, 1990). For Galloway, Martin, & Wilcox (1985), truancy is when a child chooses not to attend school without securing their parents' permission. Reid (2010a), building on this definition, expanded our understanding of truancy by positing the existence of 'psychological truancy' where children miss school because of psychological factors such as school phobia, and school refusal.

Scholars have added 'post-registration truancy' to our understanding of the term, i.e., those children who are in a school setting but avoid attending certain classes that they do not find interesting or for some other reasons wish to avoid (Kinder et al., 1996). However, such truancy terminology is not officially documented. Schools record children as absent or present on a daily basis.

Missing school days for any reason is deemed school absence. But research subsequently shifted from narrowly defining school absenteeism to categorising absence from school according to different factors. One study, for example, divided school absences into two types. These types are *authorised* absences approved by the school, as in the case of illness or attending an activity in an out-of-school setting, and *unauthorised* absences when a pupil misses school without school approval (Wilson et al., 2008). This categorisation of school

absences is still used in practice. By this token, truancy is considered a type of unauthorised absence. However, according to Reid (2010b), this distinction between authorised and unauthorised absence can be questioned on different grounds, such as the publication of league tables (which creates pressure on schools to minimise rates of unauthorised absences). Some types of absences are rarely included in official statistics, such as post-registration truancy and lesson-targeted absences. Reid (2004) pointed out that this confusion in types of absences is attributable to differences in interpreting and emphasising school attendance policies. Reid proposed to return to the old system that recorded pupils as present or absent because he pointed out that the matter of unauthorised absence is still controversial. Zhang (2003) agreed with Reid on the grounds that discrepancies were often found in teachers' authorisations for absences which may affect school attendance data accuracy.

According to Reid (2005), some cases of absenteeism occur with the consent and sometimes even the active encouragement of the child's parents. This absence from school is known as a 'condoned absence'. Parental-condoned absence is considered an authorised absence which, according to Reid, should be classified as unauthorised. Otto (2016) defined condoned absence as when parents keep their child away from school for reasons such as being a carer for a younger sibling or for a sick parent. One study estimated that at least 50,000 of 400,000 pupils absent from school each day are being kept at home to look after a sick sibling, to wait for a trade person to arrive, or to go shopping (Audit Commission for Local Authorities, 1999).

Birioukov (2016) categorised absences into voluntary and involuntary absences based on pupil intent. Voluntary absences are when a pupil chooses not to attend school because something in school hinders their motivation. Low motivation to attend school could be due to school setting or teaching strategies or other factors, while involuntary absences occur when a pupil has no choice, with absences due to home factors such as illness or any other compelling circumstances.

Another categorisation of school absence is persistent and non-persistent absence. This categorisation was based on the frequency of absences. According to the DfE (2011b), school absences are considered persistent when a pupil misses 15% or more of school sessions over a full academic year.

Attendance figures do not reveal the whole picture. According to Reid (2006), school attendance figures do not include some school absences such as post-register and specific lesson absences. Furthermore, irrespective of the type of absence – whether it is for a genuine reason such as illness (authorised), or without an acceptable reason (unauthorised by school) - both types are accounted for in school overall attendance records (Sheppard, 2011).

Exclusions from schools are attributed to behavioural difficulties, and school authorities decide to exclude pupils that pose a threat to the school environment and/or routinely disturb the teaching and learning process. However, school exclusions are incorporated into school attendance percentages (Sheppard, 2011). Thus, both absences and exclusions have been counted in the overall school attendance rate.

2.2 Defining school exclusion

The term 'exclusion' refers to the process adopted to expel pupils temporarily or permanently from schools that they are officially enrolled in (DfE, 2011a). The formal definition of school exclusion assumes that pupils are being held to account for misbehaviour. However, one study has challenged this definition of exclusion on account of the fact that its "procedural terminology… is never fully reflected in its legal definition" (Rustique-Forrester, 2003, p. 11). The same research further explored the complexity of defining the dynamics and causes of school exclusions. This complexity pertains to the difficulties and problems that are associated with pupils who have been excluded from school and how teachers and schools may value certain patterns of behaviour more than they consider pupils' needs.

Excluding pupils from school means banning them from formal education, to an extent from society, and, subsequently perhaps even from gainful employment. The literature on the issue of school exclusion has addressed a wide range of sociological, psychological, and school-based explanations for exclusion. Indeed, most children excluded from school have experienced deprived life conditions (OBE, 2017). School exclusion is viewed as segregation of a group of children who cause problems through their removal from school instead of trying to integrate them in mainstream schooling (Kinder et al., 1999). According to research, "School exclusion is a complex phenomenon which reflects teachers' perceptions, individual schools' practices, and the pressures of national policies" (Rustique-Forrester, 2003, p. 1). Furthermore,

questions have been raised about the (un)reliability of school exclusion data (Smith, 2009; Steer, 2009; Vulliamy & Webb, 2000).

2.3 Summary

The issues of school attendance and exclusions are complex, multifaceted, and overlapping. This chapter has presented the main concepts and definitions related to school attendance and exclusion. Secondly, the different categories of school absences were discussed in light of some relevant literature. The next chapter will discuss the policies of school attendance and exclusions in the education system of England.

CHAPTER 3 SCHOOL ATTENDANCE AND EXCLUSION POLICIES IN ENGLAND

3.1 Introduction

This chapter provides background information on aspects of school policies in England. The first section covers current school attendance and exclusion policies and practices in state-funded schools. Then, the differences between the school types are explained. A better understanding of the different school characteristics is fundamental because it allows policymakers to determine the extent to which, if at all, school type plays a role in children's attendance and performance. Lastly, key stages in the educational process and the measures used to evaluate pupils' academic progression at each key stage are discussed.

3.2 School attendance policies

This section presents the national policies on school attendance, beginning with admission and registration regulations before looking at how attendance is recorded in schools daily. It finishes by considering the setting of school term times.

As noted, education in England is compulsory. Parents and carers of children aged between 5 to 16 years old are responsible for ensuring their child receive a full-time education either by regular attendance at schools or through homeschooling. Therefore, most parents or guardians must ensure a pupil's school attendance. Failure to ensure that a pupil who is registered in school and is still enrolled regularly attends school can result in parents appearing in court and receiving a fine of up to £,2,500 (DfE, 2019a).

Table 3-1: School attendance percentages and equivalent attendance days(adapted from DfE, 2013c)

Percentage of attendance	Days	Attendance status
100 % attendance	0 days missed	Excellent
95% attendance	9 days of absence	Satisfactory
90% attendance	19 days of absence	Poor
85% attendance	28 days of absence	Very poor
80% attendance	38 days of absence	Unacceptable
75% attendance	46 days of absence	Unacceptable

As shown in Table 3-1, the percentages of school attendance seem misleading. Some of the attendance (90%) seems high and acceptable rate of attendance. However, 90% of attendance means 19 days of learning missed, which make a difference in terms of schooling. A pupil who has an attendance rate of 75% is in an unacceptable attendance status and the school must intervene to promote the school attendance of that pupil. According to the DfE, persistent absentee is defined as 'a pupil having 46 or more sessions of absence (authorised or unauthorised) during the academic year, around 15% of overall absence' (DfE, 2011b, p. 2).

3.2.1 Pupil registers and attendance

All school-aged children need to attend school regularly to benefit from the education system. By law, schools are required to have an admission register and attendance register, and schools are responsible for placing all pupils on both registers. Private schools are excluded from this regulation.

The admission register contains pupils' personal details and the date of admission or re-admission to the school, parental and carer personal information, and details of the previous school attended (if any). This information must be held by schools for at least three years. From the first day when pupils are accepted in a school, the school must enter them on their admission and attendance registers. Except for Year 7 pupils enrolled in secondary schools at transition, schools are required to notify local authorities with registered pupils and their information within five school days from the date of registration at the school (DfE, 2016f). In most cases,

the first day of the school year is expected to be the first day of pupil attendance. If a pupil for any reason fails to attend school, the school must mark that pupil as absent and establish the reason behind this absence. Schools must inform the relevant local authorities about any pupil who fails to attend 80% of school days or has been absent for 10 continuous days or more without the school's permission (DfE, 2016f).

3.2.2 How the attendance is recorded in schools

According to DfE policy, schools are expected to take the attendance register two times per school day, once at the start of the first session and the other during the second session. A pupil is recorded present or attending the activity, or absent, or unable to attend with an acceptable reason.

The school is responsible for identifying absences as approved or not. Absence from school is recorded as authorised when a school has given approval in advance for a compulsory age pupil to be absent or has accepted the reason offered post-facto. The absence may be recorded as unauthorised when a school is not satisfied with the given explanation for that absence.

3.2.3 The school day and school year

LAs are responsible for setting school term dates and holidays. In some types of schools, such as the foundations, academy trusts, free schools, and voluntary aided schools, the governing bodies are responsible for determining the length of each session, break and the school day (DfE, 2016e). The school day consists of two sessions separated by a break. For the school year, schools must attend for 190 school days, totalling 380 sessions (1 session = half a day) during the school year.

3.2.4 Patterns of school attendance

A report by the DfE on the statistical trends and analysis of absences within state-funded schools in England showed that since 2006/07, the levels of overall absences dropped from 6.49% to 6.04%. Looking at the figures in more detail, over the same period there was a decrease in the authorised absence rate from 5.49% to 5.00%, an increase in the unauthorised absence rate from 1.00% to 1.04%, and a fall in the persistent absence rate from 8.5% to 6.8% (DfE, 2011b). However, a later DfE report looking at figures for 2014-2015 showed an increase

in the overall absence rate within primary and secondary mainstream schools in England (DfE, 2015d). Figure 3-1 and Figure 3-2 illustrate overall absence rates of schools in England from 2006 to 2016.

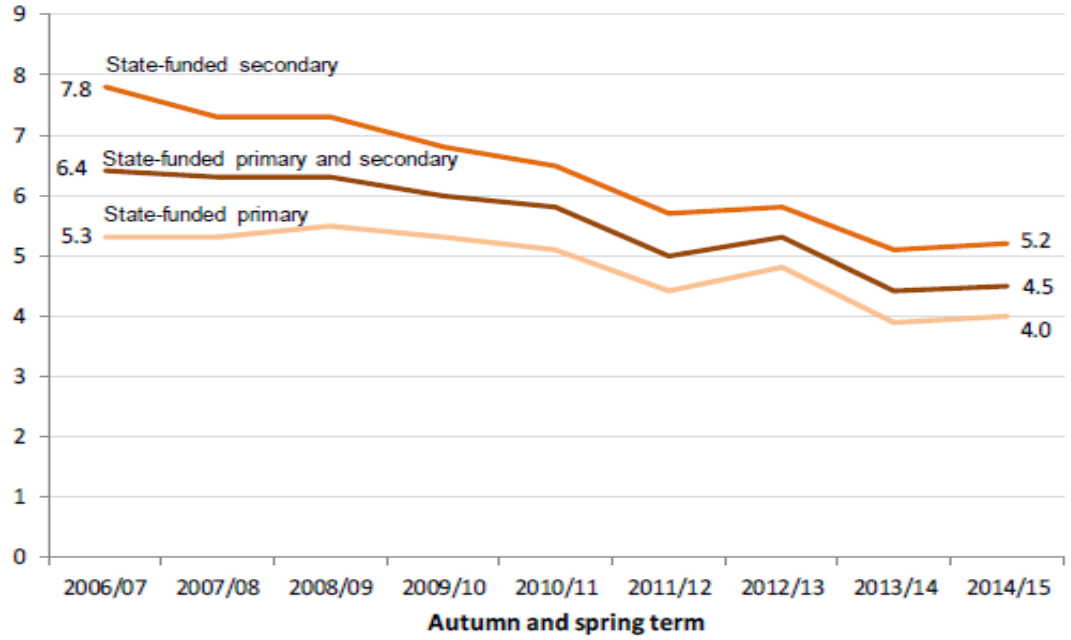

Figure 3-1: Overall absence rates (%) in state-funded schools in England (adapted from DfE, 2015d)

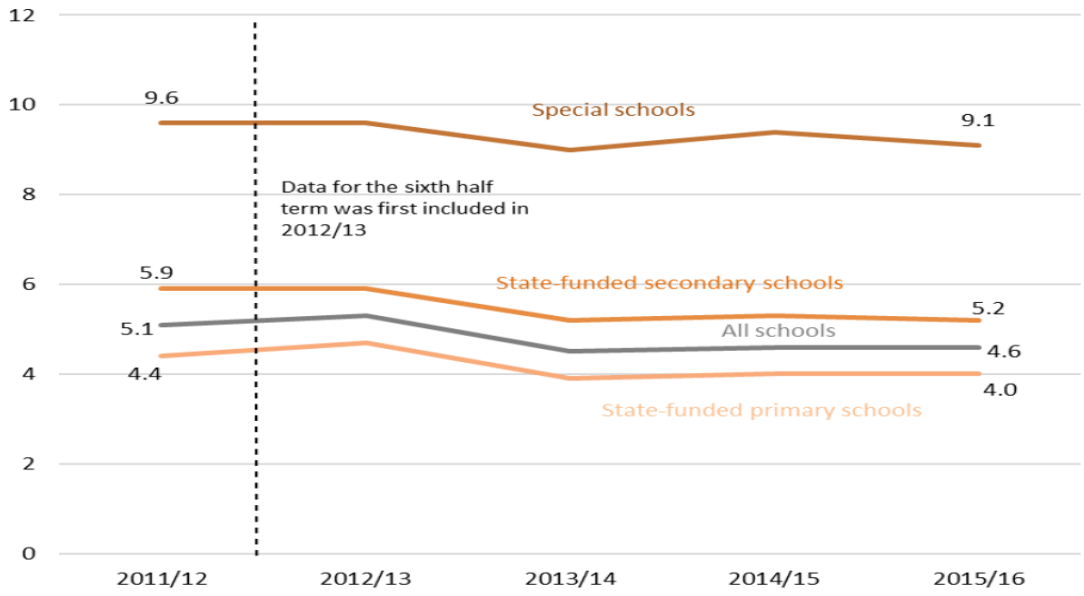

Figure 3-2: Overall absence rates (%) in state-funded schools in England (adapted from DfE, 2017c)

Figure 3-1 shows a slight increase in the overall absence rate, from 4.4% in 2013/2014 to 4.5% in 2014/2015, while Figure 3-2 shows that the overall absence rate in state-funded schools remained unchanged from year 2014/2015 to year 2015/2016. The disparities in the attendance figures over the academic years in England could be attributed to the unclarity of the definition of full school attendance besides other possible factors that may cause school absences which will be discussed more in the next chapters.

3.3 School exclusion policies

The policy of exclusion in the education system in England means that pupils are removed permanently or temporarily from a school that he/she is enrolled in as a result of pupil's misbehaviour or violation of the schools' regulations. There are two types of exclusion. The first one is a fixed exclusion, which is not more than 45 school days and is decided on by a head teacher. The head teacher's responsibility is to inform the parents and the LA of the exclusion. The second type of exclusion is a permanent exclusion, decided by the LA as a result of persistent or serious breaches of school regulations committed by the excluded pupil whose continued presence at the school could harm the education or welfare of fellow pupils. Excluded pupils have the right to participate in the exclusion process, "taking into account their age and ability to understand" (DfE, 2012a, p. 7).

3.3.1 Forms of punishment

Schools use a range of punitive approaches to tackle challenging behaviours, such as lunchtime and/or after-school detention, writing the names of misbehaving pupils on the school board, using good behaviour badges which allow pupils with full attendance rates and clean behaviour records to access their lunch earlier than others, and 'isolation booths', "a removal rooms where pupils sit in isolation booths abandoned, and their education on hold" (Tes, 2018). So, what is the difference between this approach of school exclusions (using isolated rooms) and post-registration truancy? Both of them prevent children from their right education.

Recent figures on the use of isolation booths alone show that "more than 200 pupils spent at least five straight days in isolation booths in schools in England last year, and more than 5,000 SEN children attended isolation rooms at some stage" (Titheradge, 2018). However, some evidence has shown that although tough approaches to deal with challenging behaviour are linked with temporary compliance, they are not effective in the long term, and can even lead to a deterioration in pupils' disengagement and disaffection (Child & Health, 1998; Morrison et al., 2001; Osher et al., 2010).

3.3.2 Patterns of school exclusion

In 2009/2010, official data showed a decreasing trend in school exclusions rates (DfE, 2012b). For the academic year 2013/2014, however, the rate and number of excluded pupils started to increase. According to the DfE (2015e), there was a slight increase in the total number of permanent exclusions (from 4,630 to 4,950 pupils) and in the number and rate of fixed exclusion (from 267,520 to 269,480 pupils) compared to the previous academic year of 2012/2013. In 2015/2016, permanent exclusions had risen further to 6,685 pupils and fixed exclusions stood at 339,360 pupils (DfE, 2017b). Figure 3-3 and Figure 3-4 present the trends of permanent and fixed exclusions of schools in England from 2006/07-2015/16.

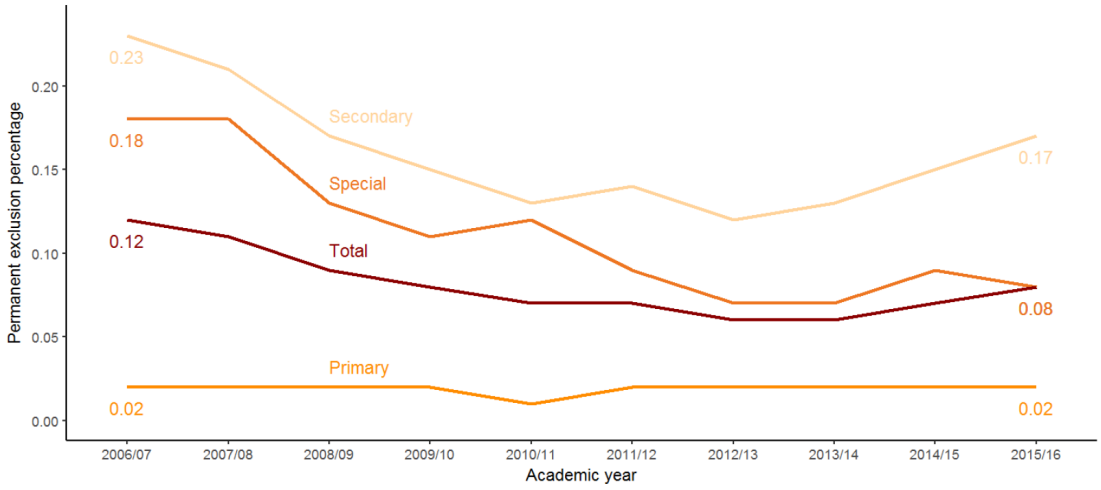

Figure 3-3: The number and rate of permanent exclusions, 2006/07-2015/16 (adapted from DfE, 2017b)

As Figure 3-3 shows, the overall permanent exclusion rate started to increase from 2013/2014, more markedly so at secondary schools.

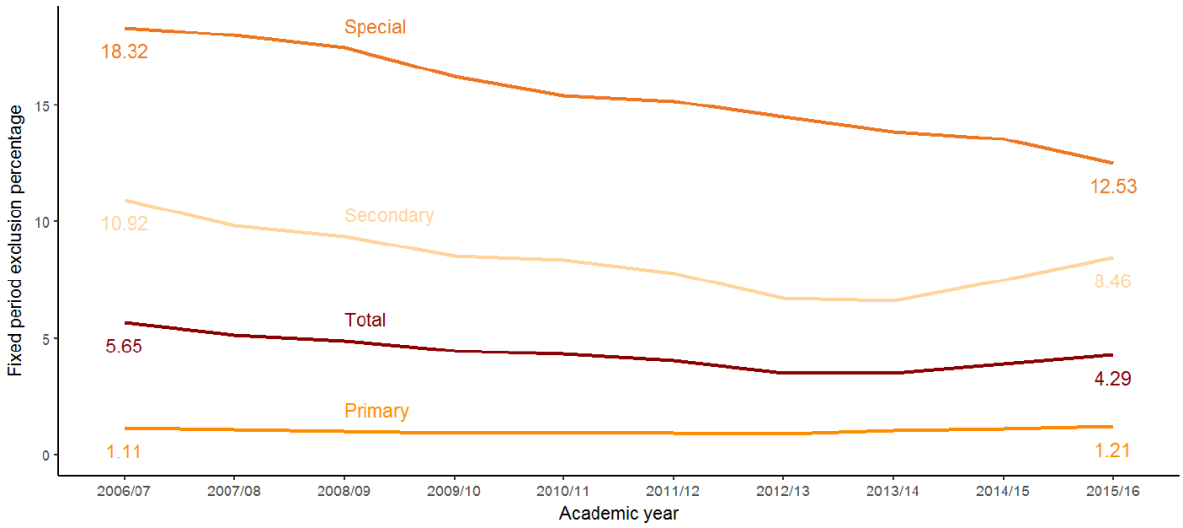

Figure 3-4: The number and rate of fixed period exclusions from 2006/07–2015/16 (adapted from (DfE, 2017b))

As shown in Figure 3-4, the increase for secondary school fixed exclusions was pronounced in 2015/2016 (8.46%). Both figures reveal that the problem of school exclusions has started to

increase in recent years despite intervention efforts devised and implemented to tackle the problem.

3.4 School types

Secondary schools can be categorised into one of four types: community schools, foundation schools, academy schools and grammar schools. However, within these categories schools are labelled according to their forms of governance, their sources of funding, and their admission policies.

At Key Stage 3 (pupils aged between 11 and 14 years of age), some schools have a selective admission policy according to which they select their intakes. For example, grammar schools select pupils who achieve high grades in the eleven plus test of scholastic ability. Thus, their selection of pupils is based on the outcomes of tests which measure students' academic ability.

Non-selective schools do not select their intakes based on academic progression or attitude. Non-selective schools provide education to all children. In sum, then, UK secondary schools can be categorised into selective and non-selective. The total number of state secondary schools in England is 3,117. Most of these secondary schools are non-selective (2,954 schools). There are only 163 state-funded grammar schools in different counties of England.

In addition to the above four types of schools, PRUs (known in some LAs as Pupil Re-Integration Units) were founded to provide education specifically for pupils who have been excluded from their schools, or have a chronic illness, or are unable to attend a mainstream school.

This study focuses on maintained mainstream schools, which are attended by approximately 93% of children aged 3 to 18 (although voluntary private payments can be requested for some activities such as field trips, swimming, and theatre visits).

The main goal of government education policy is to raise the educational standards at schools (Chitty, 2014). To achieve this overarching goal, the government has encouraged new types of schools to be established. Therefore, the different types of mainstream schools - both primary

and secondary schools are included in the analysis of this study in order to distinguish between these different institutions in terms of school attendance, exclusions and academic attainment.

Moreover, the school's class and ethnic composition and regulations could make a difference in terms of attendance and exclusion rates. For example, schools that are selective in their intakes seem to be able to find it easier to manage attendance and exclusion rates. School attendance and performance could be affected in schools in which most of the pupils enrolled are from disadvantaged backgrounds or suffer from chronic illnesses that impact their school attendance and performance.

The state education process is divided into educational blocks known as Key Stages as which are based on age. It is important to draw attention to this basic information about Key Stages as it is used frequently throughout this research project given that one of the study's main aims is to track school attendance patterns longitudinally over different Key Stages and seek to determine potential associations between patterns of attendance and academic progress (more information about the design and methods used are found in Chapter 6).

3.5 Key Stages

There are five Key Stages (excluding the foundation stage which comprises nursery and reception ages 3-5). These Key Stages are as follows: Key Stage 1 (KS1) (ages 5-7) and Key Stage 2 (KS2) (ages 7-11), Key Stage 3 (KS3) (ages 11-14) and Key Stage 4 (KS4) (ages 14-16). Finally, Key Stage 5 is post-16 education (ages 16-18).

At the age of 16 pupils typically take exams for the General Certificate of Secondary Education (GCSEs) or other Level 1/2 qualifications. Post-16 education can take different forms, either academic or vocational. Pupils may choose to continue schooling for two academic years at a 'sixth form' to take A-level exams (often, but not necessarily, as preparation for entry to university), or an alternative such as Level 3 qualifications, the Cambridge Pre-U, or the International Baccalaureate. Post-16 education can also take the form of work-based traineeships, volunteering, or apprenticeships.

Another important issue that will be addressed in this study is the academic performance of pupils. Academic attainment for KS4 pupils (KS4 total point scores) is used as the main

outcome of this research analysis. Prior attainment at KS1, 2 and 3 is used to track pupils' academic achievement.

3.6 Academic attainment measurements

In the dataset used in this study, the academic progression of school pupils is measured based on the level that they have achieved at the end of a certain KS. For example, a pupil who achieved Level 4 or 6 in the KS2 national curriculum exams is considered to have attained that level at KS2. The progress measures of KS2 and KS4 convey to what extent the school helped its pupils to progress in English and Maths between the KS2 and KS4. English and Maths are particularly important because these subjects are often included as a pre-requisite for admission to further education courses and a range of careers.

However, the government sets an expectation of academic progress pupils should make during each key stage, regardless of their starting points. If the pupils' work was below expectations such as achieving level 2 in KS2 test, the measure of their attainment at KS2 would be the teacher's assessment which is capped at level 2.

Other values such as if pupils were not able to attend the exam, is absent or misses test results (because of a lost script or had no grade due to malpractice in their KS2 test), whatever their teacher's assessment, will be counted as their level of attainment (DfE, 2015a). The DfE developed performance tables for each Key Stage.

Table 3-2 presents KS2 point scores for all subjects at National Curriculum Test level and equivalent point scores, and Table 3-3 presents KS2 levels of teacher assessment and their equivalent point score for writing.

Table 3-2: KS2 Test levels for all subjects and equivalent point score (adapted from DfE, 2016a)

KS2 point scores for all subject's National curriculum test level	**Point score equivalent**
6	39
5	33
4	27
3	21
2	15
N – Not awarded a test level	15
B – Working below the level of the tests	15
Q – Annulled following maladministration investigation	Disregard
A – Absent	Disregard
T – Working at the level of the tests but unable to access them	Disregard
F – Pupil will take the test in the future	Disregard
X – Lost/stolen scripts	Disregard
M – Missing	Disregard
S – Pending maladministration	Disregard
L – Pupil has left the school	Disregard

Table 3-3: KS2 teacher assessment levels and equivalent point score for writing (adapted from DfE, 2016a)

Key stage 2-point score for writing TA **National curriculum teacher assessment writing level**	**Point score equivalent**
6	39
5	33
4	27
3	21
2	15
1	9
W - Working towards Level 1	3
A - Absence or not enough information available to calculate TA	Disregard
D - Disapplied from the national curriculum	Disregard

There is a different scenario for KS4. Each qualification for KS4 pupils has been assigned as a threshold contribution figure. The used formula is as follows: "5 GCSEs at A*-C (and equivalent) contribute 100% to the level 2 threshold, and 5 GCSEs at A*-G (and equivalent) contribute 100% to the level 1 threshold" (DfE, 2015b). For more clarification see Table 3-4.

Table 3-4: KS4 level 1 and 2 performance figures (adapted from DfE, 2015b)

Level 1 and 2 performance figures for use in key stage 4 tables1 Qualification 2	**NQF Level**	**Level 2 threshold contribution**	**Level 1 threshold contribution**	**Point score**
GCSE - grade A*	level 2	20%	20%	58
GCSE - grade A	level 2	20%	20%	52
GCSE - grade B	level 2	20%	20%	46
GCSE - grade C	level 2	20%	20%	40
GCSE - grade D	level 1	0%	20%	34
GCSE - grade E	level 1	0%	20%	28
GCSE - grade F	level 1	0%	20%	22
GCSE - grade G	level 1	0%	20%	16
Cambridge International Certificate – grade B	level 1/2	20%	20%	46
AS – grade A1	level 3	20%	20%	67.5
AS – grade B	level 3	20%	20%	60
AS – grade C	level 3	20%	20%	52.5
AS – grade D	level 3	20%	20%	45
AS – grade E	level 3	20%	20%	37.5
BTEC Extended Certificate in Applied Science- Distinction2	level 2	20%	20%	52
OCR Level 2 Principal Learning in Engineering – grade C	level 2	20%	20%	40

As shown in Table 3-4, a GCSE at A*-C is equal to 20% of the Level 2 threshold. All other qualifications in the secondary school tables have also been assigned a percentage contribution to level 1 and 2 thresholds.

3.7 Summary

This chapter has reviewed policies of school attendance, showing how schools record pupil attendance. Patterns of school attendance were presented to track recent trends within schools.

Then, school exclusion policies were explained, covering the two types of exclusions (fixed and permanent). Patterns of school exclusions of schools were shown in order to chart changes in recent years. After that, the types of schools in England were discussed. The chapter also presented school Key Stages and how schools measure academic progress for their pupils in each Key Stage. This background information about the education system and practices within schools is crucial to set the scene for the study because most of the presented concepts and policies will be returned to throughout the research.

CHAPTER 4 EXISTING LITERATURE ON SCHOOL ATTENDANCE

4.1 Introduction

This chapter explores the main challenges associated with school attendance that have drawn the attention of government and academia. How the relevant literature has framed and explored arguments on why school attendance matters are covered, starting with a brief historical account of concerns regarding school attendance, moving on to address the associations between school attendance and academic attainment, and addressing the association between behaviour and school attendance. The chapter discusses the possible determinants of school attendance, categorised here into individual, family, and school indicators. Then it addresses parental responsibility to ensure children regularly attend school. It also highlights home-education as a second choice for educating children in England. Finally, a number of popular interventions on the improvement of school attendance interventions that have been proposed and examined in the literature are considered.

4.2 School attendance matters

Managing the data of school attendance was previously the responsibility of the Department for Education and Skills (DfES). This responsibility was delegated to national authorities in different parts of the UK, and bodies across the UK: the Department for Education (DfE) in England; the Scottish Executive Education Department (SEED); the Northern Irish Department for Education (NIDE); and the Department for Children, Education, Lifelong Learning and Skills (DCELLS) in Wales. Each administration was independent to develop, manage and regulate its policy directions (Reid, 2010b). Although the focus of this research is England, the study's findings have relevance for all areas of the UK (and beyond).

In England, raising school attendance has become a centerpiece of government policy to raise standards and improve the achievement of schools. The incoming Labour Party in 1997 set up has novel initiatives aimed at improving school attendance and pioneering developments in schools, such as Connexions, Education Action Zones, Sure Start and Excellence in Cities (Reid, 2004). Also, the setting of academic targets and league tables was introduced in schools (Gann, 1999) and attendance as a measure of school performance began to be included in monitoring and inspection frameworks.

Regular school attendance matters because it is the basis of educational success, the environment where children acquire the formal skills of learning necessary for success not only in work, but also

a wide range of transferable and social and inter-personal skills which are critical for flourishing more generally, such as learning to be independent and dealing with non-family members in a group-based setting (Büchel et al., 2001).

4.2.1 School attendance and academic attainment

As attending school seems to give children an opportunity to achieve their potential academically, research has examined the associations between school attendance and academic attainment. An example of that is a study used secondary data to investigate the influence of different factors on school test outcomes for secondary school pupils (Vignoles & Meschi, 2010). The study used data from the Longitudinal Study of Young People in England (LSYPE), the Department for Children, Schools and Families (DCSF), the National Pupil Database (NPD), and the Pupil Level Annual School Census (PLASC), covering 15,700 individuals. The findings suggested that bullying and unauthorised absences were sound predictors of low academic achievement. However, the same study concluded that other determinants for school attainment such as health, extracurricular activities and school enjoyment, were also important.

Numerous studies and reports have concluded that there is a strong link between school absence and academic attainment. For example, the DfE found that when school absences increase, academic achievement decreases (DfE, 2016b). The findings of a study by the Program for International Student Assessment (PISA) showed a negative association between school absences and academic attainment (Maths results particularly suffered) in a number of Organisation for Economic Co-operation and Development (OECD) countries (OECD, 2014).

International studies have also claimed a strong association between school attendance and academic attainment. Evidence from a longitudinal Swedish study of a large sample of 8,938 pupils, found a negative correlation between low school attendance and final education progress (Cattan et al., 2017). Another international longitudinal study, this time from the U.S., explored patterns of absence and the consequences of chronic absences on students' academic outcomes (London et al., 2016). The researchers divided the sample into four groups for analysis: a kindergarten group (n = 1,580), an elementary group (n = 2,283) including students in grades 2, 3 and 4; an elementary to middle group (n = 1,394) including Grade 6 students; and a middle to high school group (n = 1,166) including Grade 7 and Grade 8 students. The results of this study suggested that school attendance in early education is an indicator of chronic absence in later education, more important than any other

included demographic factors such as gender, ethnicity, parental qualifications, language, and SEN. This study also found a link between chronic absences and academic attainment in the subjects of Maths and English Language Arts (ELA). From this study, it could be argued that those who missed school from the early years of schooling are likely to be chronically absent in the advanced years of schooling. However, the data omitted essential information related to family background, health, or educational motivations, all of which might also contribute to school absences.

Studies have also investigated links between the *types* of absence and pupils' academic achievements. One longitudinal study in the U.S. explored the extent to which types of absence influenced pupils' academic performance (Gottfried, 2009). Excused absences referred to absence from school with a legitimate reason, and unexcused absences are those without a legitimate reason. The author concluded that a high proportion of excused absence was linked to Maths and Reading scores while unexcused absences could lead to poor school performance more generally across the board.

However, early analysis from my study (Alabbad et al., 2016) showed that the contribution of school attendance in academic progress is not significant (as descibed in Gorard, 2017). This finding is consistent with some studies. The findings of a cross-sectional U.S. study suggested that chronic absences were weakly linked with Math and English academic performance. School absences explain only 0.5% of the variation in Maths scores and 0.9% of the variation in ELA scores. The study's sample was 220 pupils from grades 6-8 for one academic year (2013/14) using administrative data from the New Jersey Department of Education (Dunlap, 2016).

Another recent study by the Madison Education Partnership (MEP) explored the links between school attendance and academic attainment in elementary schools using data for pupils in Kindergartens through year three, finding that prior school absences (both authorised and unauthorised) were weakly linked with the acquisition of reading and literacy and have moderate links with maths progress (Pyne et al., 2018).

Ascertaining precisely the associations between school attendance and academic attainment is not straightforward. Morris and Rutt (2004) found the association to be uneven. The authors posited that academic attainment varied more according to social background factors than to school attendance rates. Their sample was 14-year old children that had the same rate of school attendance. The results showed that girls' academic attainment was greater than that of their counterparts from boys in terms

of average levels of Key Stage 3 (girls=4.89 and boys=4.74) and GCSEs outcomes (girls=40.72 and boys=35.33). Another study similarly argued that the association between poor attendance and low academic performance and antisocial behaviour is not straightforward (Sheppard, 2007). Findings from Sheppard's small-scale study suggested that parental involvement in their children's education could increase both school attendance and academic attainment of the children (Sheppard, 2009). A further key point that Sheppard proposed from the analysis is that prior academic attainment is a good predictor of actual academic performance. Another study noted that many children fall behind later because they do not overcome their earlier learning difficulties over the years (Sylva, 2000).

As can be seen, the link between school attendance and academic attainment is multifaceted and complex. Numerous factors must be accounted for, such as background characteristics, prior absences, prior attainment, and aspects of the school itself before any associations can be determined with any precision. However, existing studies are based on associations between variables, and few experiments have demonstrated causality between school attendance and academic achievement.

One of the most controversial school attendance issues linked with academic attainment is term-time holidays, which is discussed below.

4.2.2 Term-time holidays and academic attainment

Before 2013 in practice, head teachers could grant pupils who had accrued a good attendance rate up to two weeks holiday during term time. However, head teachers are not now allowed to permit any holidays within the school year except for exceptional reasons. The problem is that the regulations are not precise enough when it comes to defining these exceptional reasons, and head teachers often find themselves subjectively evaluating situations on a case-by-case basis (Adams, 2017). This change in the legislation regarding term-time holidays remains controversial (Long, 2017). Adding to the vagueness of the regulations, the government, in the form of the DfE, has written that "every extra day missed was associated with a lower attainment outcome" (DfE, 2016c, p. 4), a claim which may have been made so as to merely dissuade (but not prevent) parents from taking their children on holiday during term time (Gorard, 2016).

4.2.3 School attendance and behaviour

The link between school absences and behaviour has been explored in a large number of publications and reports. For example, absence from school has been linked with disturbing the learning

environment in a report by Elton (1989), who looked at how mainstream secondary and primary schools in England and Wales sustain a secure atmosphere conducive to effective teaching and learning. A longitudinal study by researchers at Edinburgh University found that persistent absentees were more likely to use illegal drugs, drink, and smoke than their peers. In the same study, half of the absentees aged 15 reported that they had used drugs over the previous 12 months (Smith, 2004). Wilson et al.'s cross-sectional study investigated unauthorised absence using data from seven local authorities for children aged 9-14 (Wilson et al., 2008). The findings from this study suggested a link between unauthorised school absences and early engagement in sexual activity compared to children of a similar age that were regularly attending school.

A link between school absences and crime has long been established (DfEE and Home Office, 2001). Recent research evidence has claimed a link between unauthorised absence and knife carrying, for example. Analysis by the Edinburgh Study of Youth Transitions and Crime (ESYTC) covered the data of 4,300 young people aged between 12 to 16 years old, and concluded that knife carriers were twice as likely to miss school at the age of 13 than non-knife carriers and were more likely to have a history of school exclusions. Furthermore, knife carriers were mostly boys and were more likely to be from one-parent families where they were under less supervision. They were also less likely to be in receipt of FSM (McVie, 2010). Evidence shows that knife carriers tend to socialise with troublesome peers who were involved in different types of offending (11 MILLION, 2009). This link between unauthorised absences and crime/early offending was partly the reason that school attendance became a priority policy for the government (Sheppard, 2011). Possible determinants of such associations are gender, poor parenting, and peer pressure.

Research into this issue has also pointed out that symptoms that make a child delinquent are in evidence from an early age. One study noted that low motivation and interest in education was linked with early offending, which led to disruptive behaviours in classrooms, leading children to fall into alternative education services, be classified as chronic school absentees, and possibly be excluded from school (Loeber & Farrington, 2000). The resulting poor educational qualifications have a negative impact on later life choices and employment decisions and thus income (Loeber & Farrington, 2000).

Farrington argued that school absence is not a direct independent predictor of offending or other negative social outcomes such as poor employment prospects. According to this study, unauthorised

absences and offending were two signs of a concealed antisocial personality that has existed from early childhood and become more persistent in adulthood (Farrington, 1996). Longitudinal studies support the claim that intergenerational continuities exist in antisocial behaviour. For example, a study using longitudinal data from the Cambridge Study in Delinquent Development (CSDD) for 411 males, their partners, and their parents investigated the extent to which parental antisocial behaviour can predict children's antisocial behaviours. The findings posited a strong link between the antisocial behaviour of mothers and fathers and that of their children (Smith & Farrington, 2004).

Hence the potential links between unauthorised school absences and crime has been extensively explored in the literature on school absence and exclusion rates. As noted, one psychological study suggested that the likelihood of offending is cumulative and starts in early years (Farrington, 1996). Another study focused on early development to argue that the association between unauthorised absence and antisocial behaviour is strong (Smith & Farrington, 2004). However, both studies discussed here (Farrington, 1996; Smith & Farrington, 2004) are not experimental, and so the trustworthiness of their data and the conclusions drawn are susceptible to influence by the samples they used and the type and level of analysis adopted in their research. Although the evidence of associations between negative behaviours and school absences is important, it is not based on an analysis which would allow us to draw a definitive conclusion that unauthorised absences lead to negative behaviour or are even the root cause of it. The next question that needs to be explored is what determines school attendance.

4.3 Determinants of school attendance

This research investigates the determinants of school attendance over time. The existing literature has suggested a wide range of factors that could be considered determinants of school attendance. These indicators have been categorised into individual, family, and school indicators.

4.3.1 Individual determinants

Individual factors of school attendance are those related to children themselves, such as health and ability. Studies have shown that illness is a good predictor of school attendance. Government figures show that chronic illness is actually the most frequent cause of school absences (DfE, 2015d, 2017c, 2017d). Research has also indicated that illness might not only affect the ill child him/herself, but also have a detrimental effect on his/her siblings. One systematic review conducted in Australia of 28 studies which looked analysed the data of 1,470 siblings of children with chronic illnesses (Gan

et al., 2017), found that siblings of seriously ill children experienced negative emotional and psychological symptoms such as post-traumatic stress that could interfere with their school attendance and performance. The evidence suggested that the rate of attendance and academic attainment of siblings of ill children were lower than other children. Therefore, illness might prevent children, including those not directly suffering from an illness, from regularly attending school.

The evidence shows a range of individual determinants that could impact school attendance. One cross-sectional study of 30 school professionals and educational officers (Kinder et al., 1995) found that school disaffection and unauthorised absences resulted from a plethora of causes, including lack of academic ability, special needs and disabilities, lack of concentration, and lack of self-management skills such as coming to school without the requisite accessories (pen, pencils, etc.), all of which strongly contributed to school absence rates. The authors also mentioned other factors such as a lack of self-esteem, poor social skills and confidence, and challenging relationships with peers.

The link between school attendance and SEN has received significant attention from researchers and policy specialists. SEN covers a spectrum of issues, including behavioural and emotional difficulties. According to the literature, most school children that have SEN are suffering from emotional or behavioural difficulties such as Attention Deficit/Hyperactivity Disorder ADHD or specific Learning Difficulties (LD) in Mathematics, Reading, and Writing (McCoy et al., 2012). This raises the controversial matter of when a pupil is recognised as having a SEN. According to UNESCO (1994a), pupils who need additional support or adaptive pedagogical methods to meet learning objectives in general education are considered to have a SEN. Another definition is if children have greater difficulty in learning compared to their peers or suffer from a disability that prevents them from using certain educational facilities (Ofsted, 2010).

DfE figures show that the probability of being absent from school for SEN reasons has increased. In 2006/7, SEN pupils were three times more likely to miss school than other pupils, yet in 2009/10 the probability of absence had risen to four times more for SEN pupils than other pupils (DfE, 2011b). The reason for the high and increasing rate of school absences of SEN pupils could be because the type of special needs pupils experienced might prevent them from attending school on a daily basis. Another reason could be that the school lacks the proper provisions to meet the needs of this group of pupils, perhaps because of the move away from having special schools.

According to a media publication (Abrams, 2017), there have been increased concerns in recent years that schools may seek to turn away SEN pupils as a result of continuing cuts in school budgets given the extra costs involved in educating SEN pupils. Although the costs vary across the UK, the average cost of a SEN school place is £10,000 per year. Budget cuts have also seen teachers and teaching assistants lose their jobs, widening the teacher-pupil ratio gap and leaving some SEN pupils with inadequate support or no support at all. Researchers and education specialists have urged the government to consider the impact of the cuts on SEN and address the cost of meeting the needs of SEN pupils (Parveen, 2019; Tickle, 2019).

Other studies have found that SEN pupils dislike their schools and prefer not to attend, irrespective of the support they receive. One longitudinal study used a sample of 8,578 pupils aged nine and attending state-funded schools in Ireland (McCoy & Banks, 2012). They measured the extent to which SEN pupils expressed a dislike of going to school and the impact of this on their school relationships with teachers and peers and their academic progress in maths and reading. The findings indicated that the gender (male) and the social class of SEN pupils play an important role in the (lack of) educational engagement of SEN pupils while social relations - either with teachers or peers - are mainly tied to their (lack of) enjoyment of school (McCoy & Banks, 2012). Therefore, familial and individual pupil background characteristics seemed to influence the school attendance of SEN pupils rather than their own specific needs as SEN pupils.

It was shown that SEN is a determinant of low school attendance. However, the available evidence has been based on longitudinal and perspective approaches; in the absence of experimental evidence, the determination that SEN is a cause of low school attendance seems less solid. This inconclusive finding led researchers to explore family and home factors as determinants of school absence rates.

4.3.2 Family and home as determinants of school attendance

Studies have listed a range of family and home factors deemed relevant to debates on school attendance. One study that investigated these factors found a strong association between school absences and family characteristics (Tyerman, 1968). Another showed that domestic abuse at home, poor parenting skills and/or a lack of parental concern for the value of education are closely linked to school disaffection and absences (Kinder et al., 1995).

Some research has highlighted divorce and/or parental splits (Scanlan et al., 2003) and a lack of parental involvement in children's well-being as possible causes of school non-attendance (Reid, 2002c). One study investigated the attitudes of parents to school attendance in seven LAs in England and found that fewer parents/carers of children with low school attendance valued the role that school attendance has in academic progression (Malcolm et al., 2003a). However, in contrast to this claim, one cross-sectional study used 2,000 telephone surveys and 22 interviews with parents/carers of poorly attending children to compare the views of the general population and parents of low attendees to education and school attendance. The interesting finding was that there were no significant differences between the views of the parents of school non-attenders and parents of regular school attendees on their children's education (Dalziel & Henthorne, 2005). Valuing school attendance procedure and parental knowledge is thus perhaps insufficient to support children's regular school attendance. One conclusion to draw here is that other possible barriers to access, such as poverty, seem to be more strongly associated with poor school attendance.

Some studies have attributed low school attendance to the economic status of the family. One longitudinal study, using extensive school attendance data from 32 LAs in London for the years 1996/1997 to 1999/2000, found a strong link between poverty and school attendance, especially for primary school children (Zhang, 2003). Zhang's findings were consistent with other research (e.g. (Atkinson et al., 2000; Hallam, 1996; Whitney, 1994). Therefore, there seems to be a broad consensus that there is a link between poverty and low school attendance.

Another large scale study examined the links between economic standing and school absence (Reid, 2004). Presenting evidence that persistent absentee children are most likely to come from low socio-economic families, Reid described the home and family background as indicators of school absence. He looked at factors such as: if the parent/s are in semi-skilled work or in unskilled jobs such as cleaning or labouring, or semi-skilled work, are unemployed or in irregular employment, if the families are on a low-income or under severe financial stress, if the children receive FSMs, if the children are poorly clothed and eat low quality food at home, and if the family lives in social exclusion or lacks adequate transportation to/from school. Although there was no direct causality considered, the study found a strong association between these factors and persistent absenteeism.

According to a recent article in the Guardian, 'Girls from poorer families in England struggle to afford sanitary protection' (Marsh, 2017). This phenomenon has also been observed internationally

(Bobel, 2018). Recent evidence from a randomised controlled experiment in Kenya of 6,000 pupils showed that providing girls with sanitary pads reduces school absences by up to five percentage points (Benshaul-Tolonen et al., 2019). This evidence suggests that poverty could hinder the school attendance of girls from low-income backgrounds because of a lack of sanitary protection.

In sum, the socio-economic status of the family seems to be a strong determinant of school attendance. Pupils who come from low-income families are more likely to miss school for a variety of complex causes poverty-related or poverty-induced reasons. This association needs to be explored in more experimental studies.

It can be concluded that the determinants of school attendance are not random. There is strong evidence to suggest that determining factors of low school attendance are related to pupils' family background, socioeconomic and health factors. However, this evidence is not based on large scale experimental studies but rather on associations between school absence and certain observed factors. There are also deficiencies in the recording of data and definitions of variables which account for low student attendance in school. Causality is still unclear and may not be straightforward. Missing school days could be a symptom as much as a cause of other, often inter-related factors.

4.3.3 School determinants

Research has highlighted different school factors as determinants of school attendance. A study using a sample of 128 persistent absentees and two control groups (n = 349) suggested that bullying, a narrow curriculum, and poor teaching were common indicators of school absences (Reid, 1985). Another study concurs with Reid's findings in claiming that feeling unsafe and being bullied at school are strong indicators of whether a child will seek to avoid school (Cham et al., 2015). Therefore, feeling safe and secure at school is crucial for creating a positive school climate to encourage regular school attendance for some pupils.

Indeed, the psycho-social dimensions of schools have drawn the attention of a growing body of researchers concerned with the emotional well-being of children and school effectiveness. For example, research by the World Health Organization (WHO) among school-age children from Australia and Wales showed a strong relationship between health-compromising behaviour by pupils such as alcohol use and smoking and indicators of "alienation" from school (Nutbeam et al., 1993). More research is being conducted into the extent that not feeling safe at school leads to children

avoiding going to school. For example, some studies have found that the key indicator of a school's psycho-social climate is perceptions of safety (Chen & Weikart, 2008; Hughes et al., 2015).

One U.S. review of the school environment addressed five important areas that may impact school attendance and the academic attainment of children (Thapa et al., 2013, p. 2). These areas are: "(a) Safety (e.g., rules and norms, physical safety, social-emotional safety); (b) Relationships (e.g., respect for diversity, school connectedness/engagement, social support, leadership, and students' race/ethnicity and their perceptions of school climate); (c) Teaching and Learning (e.g., social, emotional, ethical, and civic learning; service learning; support for academic learning; support for professional relationships; teachers' and students' perceptions of school climate); (d) the Institutional Environment (e.g., physical surrounding, resources, supplies); and (e) the School Improvement Process".

Some studies have pointed to poor relationships between teachers and pupils as an indicator of school absences (Kinder et al., 1995; Kinder et al., 1996), while other research has looked at the impact of geographical distance between school and home as a barrier to regular school attendance. For example, a longitudinal U.S. study found that as the distance between a pupil's home and school increases, days of attending school decrease, suggesting a link between geographical distance and attendance (Gottfried, 2010).

It has been argued that it is never easy to distinguish between factors influencing absenteeism due to the interconnected nature of these impediments to regular school attendance (Birioukov, 2016). Absenteeism research indicated that there is difficulty in distinguishing between the causes and effects of school absences. A study pointed out that it was not known whether unauthorised school absence leads to negative behaviours, or negative behaviours lead to unauthorised school absences, or the two are correlated (Gage et al., 2013). For example, although researchers in different countries - in Spain (Duarte & Escario, 2006), Norway (Mounteney et al. (2010), and Taiwan (Chou et al. (2006) - all found a link between unauthorised school absence and increased alcohol consumption, the researchers acknowledged difficulty in determining whether alcohol led to unauthorised absence or the causation was the opposite.

Although all rigours design studies can provide valuable insights into the area of research, Evidence from a number of studies has demonstrated associations between school factors and school attendance

suffer from limitations in terms of definitions of school factors and methodologies. The lack of well-defined research-based design has implications for what is measured, how and why. Moreover, it could hamper the process of evaluating the outcomes. Research has thus called for a need for including 'multiple perspectives' in rigorous studies in which concepts and outcomes are integrated into the analyses (Thapa et al., 2013).

4.4 School attendance and school mobility

The literature also links school attendance to school mobility. The simple definition of school mobile pupils is pupils that change schools during a school year. In England, a high school- mobility rate has become increasingly common in recent decades. According to DfE standards, schools should be welcoming to new arrivals whether they are from other schools in the UK or come from outside the country and support them in making progress and becoming accustomed to their new school environment (Department for Children Schools and Families, 2007).

There are various reasons for school mobility, including family relocation due to economic/social hardship (Strand & Demie, 2006), migrant families seeking to improve their circumstances (Keys, 2003), 'reluctant movers' such as families moving due to changes in their wage-earners working circumstances (Sell & DeJong, 1983), traveller families (Levinson & Sparkes, 2006), or military families (Jeffreys & Leitzel, 2000). Another reason for school mobility is to meet educational needs. Once a school has excluded a child or failed to meet the needs of that child, parents have to change school. Therefore, in certain cases, school mobility could be the only option to keep a child in the education system.

Linking mobility to socio-economic circumstances, research has pointed out that mobility involving children from disadvantaged socio-economic backgrounds is more likely to lead to a substantial educational penalty than for mobile pupils from relatively advantaged circumstances (Brown et al., 2011). Indeed, more generally, studies have shown that mobile children are more likely to be SEN, in receipt of FSM, and have a high rate of school absenteeism (Strand & Demie, 2006).

One study provided an analysis of patterns of pupil mobility for all state-funded schools in England using the Pupil Level Annual School Census (PLASC) data for two academic years (2001/2002 and 2002/2003). The nature of this data enabled the researchers to identify and track family mobility patterns and account for reasons for changing school in these years. The results showed that pupils

from disadvantaged backgrounds were more likely to change their school and have a lower academic attainment than less mobile pupils (Machin et al., 2006). Therefore, coming from a disadvantaged background could determine both school mobility and academic attainment.

International studies have also found that school absenteeism is linked to school mobility and dropout (self- exclusion where pupils choose to leave school before graduating) rates. For example, a study in California using the National Longitudinal Survey's data for 8th and 12th-grade students (aged 13-14 and 17-18 years) suggested that younger children, behaviours, and school absenteeism predicted school mobility and dropout rates. Changing schools decreased the odds of graduation from high school (Rumberger & Larson, 1998). Although school dropouts are not of direct interest to the current study, the topic is occasionally raised because dropouts could be considered as 'academic failure', which *is* a prime concern here.

There is thus considerable evidence linking school mobility and low school attendance. School mobility could be a determinant of school attendance. However, this evidence is not based on experimental research designed to determine the causality between school mobility and school attendance. Moreover, most of these studies suggest that mobile school children are also the most deprived children. Therefore, the interaction between disadvantaged background variables and mobility could impact the level of the indicated link between mobility and school outcomes. Indeed, evidence shows that school mobility negatively influences mobile children from a poor background more than for children from mobile advantaged families.

There is also literature suggesting an association between school attendance and unpaid caring (children of school age who care for younger or sick siblings or sick even adults). According to Becker (2000), a young carer is a child under 18 who provides care and support for a member of the family, often carrying out substantial caring tasks and assuming a level of responsibility which would usually be the remit of an adult. The care receiver is often a parent or might be a sibling or grandparent who in need of support or supervision due to chronic illness, disability, or mental health problems. This issue is addressed in the next section.

4.5 School attendance and young carers

In developed countries such as the UK, Australia, and the USA, there is growing interest among researchers, social care units and education providers to determine the extent and nature of young

carers and the effect that caring has in their lives. A variety of state agencies and social welfare professionals are charged with protecting and safeguarding children and young people. 'Childhood' is viewed as a special phase until a child becomes an adult (Dearden & Becker, 2004; Frank et al., 1999), and part of the task of safeguarding children is that they are in full-time education and are not charged with responsibilities that might hinder schooling.

The concerns of young caring as a 'hidden' social issue, hidden problem and how it is linked with education emerged in the north of England in the 1990s with pilot studies investigating the phenomenon of young carers who were missing school and/or experiencing educational difficulties (Aldridge & Becker, 1993; Frank, 1995). Conducted in the London Borough of Enfield with a sample of 38 young people, Marsden (1995) was one of the attempts to explore the link between young caring and education. The results showed that 15 of the 38 participants were found to be experiencing a restricted education and a further 20 a potentially hindered education as a result of their caring responsibilities. The main educational difficulties found were school attendance, punctuality, and problems with course work and homework.

There are no precise national figures on the number of young carers in the UK. However, some studies have sought to put a figure on it. For example, 4% of 173,040 young people aged between 18 and 24 in one study regularly took care of a disabled or ill relative during their childhood (Cawson, 2002). Findings from a study gathered data from 87 projects (Dearden & Becker, 2004) involving 6,178 young carers in the UK showed that more than half of the children were living in a one parent family and taking care of sick mothers. The study noted that 27% of young carers at secondary school age experienced educational difficulties and 13% of primary school aged children did so. The authors in the same report identified the key educational difficulties and listed absence from school, and lateness as educational problems experienced by young people who were involved in caring in their childhood. The authors also suggested that young caring is associated with future employment prospects, which might restrict young carers from practising the work that they prefer. Looking at the cause of the rise in young carers, some researchers have pointed to a lack of available state-provided or affordable private care services.

Despite the wealth of literature on the subject, the problem of young carers requires more research. Although there is an onging impetus to investigate the association between young carers and school attendance and performance, the evidence has been taken from small scale studies depending on

people perspectives, as opposed to experimental evidence. Consequently, the findings are weaker than they might otherwise be, and any purported causal links between school attendance and young carers are at best tentative.

Furthermore, young caring is itself strongly associated with deprived backgrounds and determinants linked with the social services. Therefore, discussion of the determinants of school attendance show that school attendance in the first place is related to the socio-economic backgrounds of children. This widely held contention invites the question of who is responsible for ensuring children regularly attend school. The next section looks at this question with reference to school attendance policies and the relevant literature.

4.6 Is school attendance a parental responsibility?

Since school attendance became compulsory in the UK for parents who choose to educate their children in schools, legal sanctions have been applied to parents who failed to ensure their children regular school attendance (Collins, 1998). These sanctions included court orders for parents to attend courses for better parenting, parenting contracts, fixed penalty notices and prosecutions (DfES, 2004b). Although it is rare to find in the literature research which has investigated the effectiveness of parental prosecutions on reducing school absences, one study has examined the correlation between parental prosecutions and the reduction of school unauthorised absences (Zhang, 2004). Using the average attendance rate of LAs and unauthorised absence rates for three academic years between 1999 and 2002, Zhang's findings showed correlation coefficients of 0.075 and 0.074, suggesting that no clear relationship exists between the number of parental prosecutions and the level of school absences. Therefore, although education social work and the welfare services do continuously prosecute parents for their children's poor school attendance, no evidence has been found to show that such prosecutions have the stated impact of improving school attendance.

Although parents are responsible for their children's education by law, they can choose either to send their children to school on a daily or boarding basis or, if they wish, they can provide their children with the required education at home, a subject which the next section addresses.

4.7 Home-education

Home education is the education of children in and around the house by their parents or by people appointed by the parents. It can be seen as a temporary or permanent alternative to the education provided by the state or by private schooling (Petrie, 1993, p. 139).

Rothermel (2003) noted that home-educated children mostly came from a well-educated familial background. However, (Fortune-Wood, 2005) argued that home-educated families in his sample were not from a purported 'middle-class elite.' In contrast, they seemed to be below the national average in terms of lifetime income. Taken together, then, these studies show that home-educated families represent a wide cross-section of UK society. Interestingly, random cross-sectional research of 6,135 households found that home-education families are mostly from minority ethnicities (Smith & Nelson, 2015). However, given the limitations of the small sample size, no definite conclusions can be generalised from this study.

Although research has focused more on measuring the academic attainment of school children than that of home-educated children, there have been attempts to compare and explore the differences between home-educated children and those who attended formal schooling in terms of the academic outcome. One study comparing the academic progress of home-educated children with their counterparts who were school educated showed that home-educated children outperformed school-educated ones (Rothermel, 2004). The study used 34 children aged four and five from diverse backgrounds. It evaluated children's learning using the Performance Indicators in Primary Schools (PIPS). According to the author, home education is flexible and tailored to children's individual needs and interests, as well as offering children a high amount of individual attention (from parents or appointed educators), which may influence their educational outcomes in the future (Rothermel, 2004). The author suggested that this finding may mean that parents' commitment and accountability are essential issues in their children's education progress regardless of the parents' level of education and whatever socio-economic background they come from.

Research has indicated that little is known about home-educated children in terms of the learning environment at home and the quality of education they receive. Smith and Nelson (2015) argued that there is no nationally representative data on the prevalence and characteristics of the home-educated population in the UK because no obligation is made on families to register with their LA. When parents choose home education, they are not obliged to follow the National Curriculum or provide a

set number of hours of education. As a result, they do not have to allow LA representatives to visit their home or provide a set number of hours of education (Nelson, 2014).

An earlier study, by Rothermel, used a survey and interviews with parents and educational and psychological assessments of 419 home-educated families with 1,099 home-educated children to determine reasons for choosing that educational route (Rothermel, 2002). The study found that families choose home-education for different reasons, including disappointment with the formal education in schools, fears of bullying, stress, and depression at school, in addition to the parent's own negative school experiences and peer influence.

Another study of 27 parents of SEN or disabled children used an online survey and indicated that the decision to home-educate had been taken while their children were attending state-funded schools. The main reasons for their choice of home-education were negative experiences in schools and the failure of schools to adequately meet their children's needs (Parsons & Lewis, 2010).

According to a recent report by the BBC News, home-schooling rose in the UK by approximately 40% over a three-year period and the number of home-educated children stood at 48,000 children nationwide in 2016/2017 (Issimdar, 2018). In the same report, it was noted that the main reasons given for removing children from school classes were mental health problems and to avoid exclusions from schools because school exclusions appear on pupils' records, a fact which may well entail implications for their future life choices and options.

Having looked at the literature on school absence and exclusion rates, the next sections will explore the most common school attendance interventions that have been found to tackle the problem of low school attendance. A more in-depth investigation of school attendance interventions is presented in Chapter 8.

4.8 Interventions to tackle low school attendance

The perception of the necessity for regular school attendance as a prerequisite of achieving acceptable academic progression and encouraging the development of social skills and behaviours has led the state education system to devise and implement methods to promote school attendance and reduce absenteeism (Reid, 2003, 2004, 2010a). A number of programmes have been devised to address low school attendance.

The methods to tackle the problem of school attendance fall under two broad approaches. The first is school strategies, such as contacting parents from the first day of their child's absence, rewarding high attendance rates, and raising good attendance profiles in school (Reid, 1999, 2002c). There is evidence that school rewards for good attendance records could actually worsen school attendance in certain circumstances (Coughlan, 2018). These strategies are supported by a second broad-based approach - dealing directly with parents and absentee children (Reid, 2002c).

Various initiatives and good practices are found in UK secondary schools. These initiatives are mostly mentoring programmes. Examples of these programmes are Connexions Service, Excellence in Cities, Education Action zones, and Behaviour Improvement Programme. These programmes are DFE-supported schemes, often occurring in only some areas.

Connexions was a multi-partner service to support 13 to 19 year-old children. Schools manage the support service and appoint a personal advisor to deal with pupils that are experiencing problems in order to help them integrate into education. Connexions work to help schools meet the needs of their pupils, especially those from disadvantaged backgrounds, to promote school attendance and academic attainment. The school advisor (mentor) conducts assessment and reviews the academic progress of children, offers one-to-one support for low academic attainers, and makes a range of referrals to specialist support services (Reid, 2002a).

The Excellence in Cities initiative comprises three core strands. The first is appointing learning mentors to help children with educational and behavioural difficulties. The second is offering learning support units to support children with short-term teaching programmes. The final strand is a programme for gifted and talented pupils to provide extra support for these children (Machin et al., 2004).

Education Action Zones are local clusters of schools formed between the schools, their LAs and local organisations, and agencies such as higher education institutions (Ofsted, 2003, p. 5). The goal of this initiative is to support disaffected children by involving them in education and improving their academic performance through a range of strategies and activities.

Another example is the Behaviour Improvement Programme (BIP), a programme funded by the DfES and aimed at reducing the rate of school absences and exclusions by improving pupils' behaviour.

This intervention targets secondary schools in the most deprived areas suffering high rates of mobility (where 60% of the students have changed school at least once during the academic year) and which have high rates of excluded pupils. The programme has been found to be effective at sustaining improvements within schools regarding attendance and behaviour (Ofsted, 2005).

There are other forms of state-funded mentoring initiatives such as schemes in which adults mentor underachievers, children with a SEN, disabled pupils, and recent immigrants (Tsatsaroni, 2011). These programmes include a range of projects to assist with reducing absenteeism and exclusions, as well as assisting children with behavioural difficulties. There are also local programmes where Year 12 and Year 13 pupils mentor younger children, good attenders guide poor attenders, or able pupils work with less able ones. Parental-school schemes are another variant initiative where parents are involved to mentor children to reduce school absences, alienation, and anti-social behaviour such as bullying. This parental support could occur in the school environment or at out-of-school locations such as in social clubs (Reid, 2002a).

Reid (2003) attempted to bring all of the above initiatives together to assess their effectiveness on affected pupils and found that despite the range of endeavors and initiatives, he found little evidence to show serious and sustained improvements in school attendance rates. As the author put it, "For example, overall attendance rates in Glasgow are only just over 80 per cent. Some schools in parts of the North-East, Northwest, Yorkshire, Humberside, Midlands, London, the South, Cardiff and South Wales suffer from similar, and in some cases, worse scenarios" (p. 3).

'Go to bed early sees attendance rise' is a campaign centred on three primary schools with the help of local and voluntary organisations including churches and children's centres (Keighley Local News, 2017). The local councils and the police focus on engaging parents to support local schools and keep their children safe. A range of activities (such as storytelling, telling the time, and having a 'bed installation' in the school entrance) have been devised to encourage parents to get their children to bed early in order to get a good night's sleep. The results showed an increase in school attendance rates from 95% to 97% in one school, with persistent absences falling from 18% to 9%. In another school, the rate of attendance rose to 97%, and in the third school the attendance rates increased from 96% to 97% while persistent absences fell from 17% to 10% (Keighley Local News, 2017).

International research on attendance interventions has shown some promise. For example, research assessing a programme to combat school absences in three elementary schools suffering poor attendance located in the same area in the U.S. studied a sample of 1,082 children from preschool age to five years old in the academic year 1999-2000 (McCluskey et al., 2004). The programme used different approaches to attendance problems, starting with a letter to the parent(s) to inform them about the disadvantages of low attendance for their child, moving to a visit by the school attendance officer, referring the case to social services, and, finally, contacting the police. The first two approaches showed improvements in the number of absence days: letters total = 204 children (pre = 20.4% post = 14.4%); visits total = 42 children (26.9% post= 19.1%). The study pointed out that the programme showed significant improvements in the attendance rate of a targeted group of absentees with these low-cost initiatives. However, no data for the comparison group were available from the district, which limits the analysis to children with attendance problems.

Another example from international studies is Baltimore Community Schools (BS), which implemented a full-time coordinator to act as a liaison between schools, families, and community-based organisations to determine the most effective ways to serve the needs of the school community. These school initiatives were combined with out-of-school programmes that established a network of parental and community resources to promote pupils' attainment and enhance family and community well-being. As a result, the schools offered a range of programmes and opportunities to meet families' needs (such as food, clothing for job searches, and health centers), with access open to all. Durham and Connolly (2016) evaluated the effectiveness of this programme over one year in 2014/15 (n = 20,928 BS pupils; n = 52,336 non-BS pupils). Most of the BS were FSM, EAL, minority ethnicity, and some had a SEN. The results showed that for elementary pupils of BS schools, average daily attendance rates were 1.4 points higher than for non-BS. For middle school, BS attendance rates were 2.3 points higher than for non-BS, and for high school BS attendance rates were 1.5 lower than non-BS. These results covered a five-year period. For comparison, between the three waves of the participants (two, three and five years), the results showed that there was no difference between tested and controlled ones in terms of chronic absence over two years. Three years showed no remarkable difference between groups and high school aged pupils were 18% less likely to be chronic absentees. Five years elementary students were 41% less likely to be chronically absent and middle school students were 48% less likely to be chronically absent. Interestingly, high school aged pupils were 40% more likely to be absent. In terms of school mobility, for BS pupils of years 6, 9, and 10 18.8%

of students had changed school once during the time of the programme. For non-BS pupils, 22.5% had changed their school at least once. No difference was found for young pupils.

Another study suggested that re-examination of the national curriculum, especially for less able and disaffected pupils and those with a SEN, would help to promote the effectiveness of the existing interventions and allow them to achieve their objectives in schools (Reid, 2003). Additionally, Reid (2008) summarised the main factors that may serve to enhance school attendance: leadership, school transition, pastoral support, training and professional development, school structure and organization, parental involvement, pupils' views, early intervention, multi-agency working, and the role of education welfare services. Southwell (2006) claimed that not attending school is a behaviour that could develop gradually and should be treated as other behavioural problems. In this case, persistent absentees and truants must be treated as those who have social, emotional and behavioural difficulties instead of considering them to be 'offenders'. By and large, there is a need for compelling evidence which may help to better understand school attendance.

Findings of another systematic review of 11 studies exploring school interventions targeted looked-after children to promote their academic attainment and reduce absenteeism and exclusions (Liabo et al., 2013). The study reported that "no study was found robust enough to provide evidence on effectiveness" (p: 341).

In addition, Ofsted (2003), in their report to assess the management and effects of two major programmes in the UK (EiC and EAZ) on improving educational achievement and enhancing social inclusion amongst disadvantaged pupils, concluded that much work remains to be done to improve targeted schools. The study recommended that these improvements could be achieved by meeting pupils' educational and personal needs.

The findings of a rigorous review of the impact of cash transfers programmes on education (Bastagli et al., 2016) included 42 interventions conducted in different countries worldwide and found that "cash transfers can affect access to education in the short term by removing the financial barriers to education. However, a less clear-cut pattern of impact was found for learning outcomes" (p. 72). Attendance is probably necessary but not sufficient for learning in school.

What can be understood from the literature is that no intervention has unquestioningly demonstrated its effectiveness in tackling the problem of school attendance. All existing programmes have limitations in terms of the definition of the problem of school attendance or the targeted groups, lack of follow up, threats of diffusion, lack of comparison groups, high rates of sample attrition, or/and using inappropriate statistical tests to show the significance of their findings.

Overall, the literature indicates that additional research is required to better comprehend the outcomes of school attendance behaviour programmes, especially with pupils from disadvantaged backgrounds.

4.9 Summary

This chapter has discussed the most significant topics and concerns of school attendance using national and international evidence. The main argument explained here is how school attendance matters for pupils' academic progress and well-being. The chapter also investigated the determinants of school attendance through the evidence found in the literature. School attendance determinants were discussed in detail and recurring challenges that show a consistent association with children's low attendance in schools were considered. A major determinant of low school attendance is pupils' background characteristics. Low school attendance rates seem to hit pupils from disadvantaged backgrounds more (and harder) compared to other groups of their counterparts. However, ranking background characteristics in terms of their relations to school attendance seem not possible for different reasons. One of them is related to the nature of these factors which is confounding. Pupils came from a disadvantaged background could experience more than one difficulty that probably impacts their school attendance and attainment such as poverty and illness. Illness which is counted as a legitimate reason for school absences has different levels which might affect school attendance and attainment differently. In addition, the definition of full school attendance remains unclear.

CHAPTER 5 EXISTING LITERATURE ON SCHOOL EXCLUSION

5.1 Introduction

The Every Child Matters (ECM) project states that it is the responsibility of individual schools and the LAs to devise and implement measures to support 'every child' in achieving good educational outcomes (DfES, 2004a). However, despite this - and other – initiatives, some groups of disadvantaged children lag behind their peers academically. A substantial amount of research holds that those children are at risk of school exclusions or have been already excluded (Vulliamy & Webb, 2000). In the UK, school exclusion is defined as a "disciplinary sanction that prevents pupils from attending school either for a fixed period or permanently" (Gazeley, 2010), p.451). The process of school exclusion can either be for a fixed term (suspension) or permanent (expulsion). An explanation of school exclusion procedure and types was presented in Chapter 1. This chapter highlights and examines the main topics and concerns found in the literature on school exclusion. First, the reasons for school exclusions are considered. Then the common determinants of school exclusions are discussed before the contradictory policies found in the UK education system are considered. The chapter then looks at the costs of exclusions – to individual children, to families, and to the wider society - as they have been depicted in the literature. School exclusion interventions are discussed before, finally, the chapter examines alternatives to the practice of exclusion.

5.2 Reasons for school exclusions

The controversial debate about children's behaviour in school has been widely covered and reported, both in academia and in the popular news (Grieve, 2009; Sullivan, 2018; Valdebenito et al., 2018). For almost two decades, aggressive, disruptive or uncooperative behaviour towards staff or peers and/or drug and/or alcohol abuse has been the most cited reason for school exclusion, accounting in 2010/2011 for 24.8% of fixed period exclusions and 33.7% of permanent exclusions (Clegg et al., 2009; DfE, 2013b). However, there is a continuous debate around the reliability of school figures and reasons for exclusions because of inconsistencies in the use of exclusion as a punitive measure. According to one study, "Exclusion can sometimes be a necessary last resort, but increasingly the evidence is pointing to many 'offenders' for whom this solution is just not appropriate" (Sullivan, 2018).

There is evidence that most school exclusions can be attributed to disrespect or noncompliance, such as talking back to teachers or other people in authority and flouting uniform policy (Evans, 2010),

with few exclusions actually down to the type of disruptive behaviours which might threaten safety in schools and thus warrant an exclusion order (Parsons, 1999).

Most children displaying behavioural issues in school have Behaviour, Emotional and Social Difficulties (BESD). They are always challenges for schools and teachers (Visser et al., 2002), and these children represent a high proportion of excluded pupils. In 2015/16, one in fifty children were labelled BESD (DfE, 2017b). This is raised into one in two children in Alternative Provisions (APs) such as Pupil Referral Unit (PRUs), where excluded pupils receive their education.

Before the 1981 Education Act, which restructured special education, 'disruptive behaviour' was classified as 'maladjustment' (Jones, 2003). One study suggested that early literature on school exclusions attributed such exclusions and disruptive behaviour to medical diagnoses instead of locating causes in individual, family, and/or school factors (Munn & Lloyd, 2005). The change of recognition of the causes of challenging behaviour from 'maladjustment' to those with BESD reflects an acknowledgement of the impact of environmental and social factors on the wellbeing of children and their chances of flourishing at school (DfES, 2001), and represents a shift to expanding our understanding of the determinants of exclusions.

Children with BESD are classified as having SEN because those children are facing barriers and difficulties in learning compared to their peers (DfES, 2001). Correlations between educational challenges, social deprivation, and school exclusions are well-established (DfEF, 2009). It is known that a group of children are at risk of facing school exclusion as a result of certain circumstances. According to the DfES, "the behaviour of pupils at risk of exclusion is sometimes driven by complex combinations of social, emotional and health problems" (DfES, 2008, p. 9).

5.3 Determinants of school exclusions

Understanding the risk factors underpinning vulnerability for individual children is the key to identifying protective factors and planning for effective interventions (Bynner, 2001). The next section examines the determinants of school exclusions as they have been identified and addressed in the literature, which, broadly, has categorised them as individual, family, and school factors.

5.3.1 Individual determinants

It has been well documented that children displaying behavioural challenges, including those excluded from school, often have SEN and/or BESD, which lead to learning difficulties (DfES, 2001). Behavioural difficulties have been linked with literacy difficulties (Ofsted, 2006) and language disorders (Lindsay & Dockrell, 2000; Ripley & Yuill, 2005). These difficulties could impact on the communication skills of these children and lead to challenges in accessing the school curriculum, leading in turn to flagging engagement with the learning process, more so when these needs are not diagnosed or met.

Difficulties may be related to motivation and 'self-efficacy'. The lack of confidence that children have in their capabilities to succeed could be instrumental in setting the expectations of their future life chances (Bandura, 1977). Therefore, children who have experienced failure at school are likely to expect failure and have little belief in their capabilities. For example, evidence has suggested a strong link between low academic attainment at primary school and exclusion in secondary school. One longitudinal study used the National Pupil Database (NPD) and found that KS2 scores (especially for English in Year 6) and school absences in the first two terms of secondary school are strongly associated with the average number of fixed exclusions at secondary school (Strand and Fletcher, 2014).

5.3.2 Family determinants

Research has indicated that most of the 'risk factors' that are linked to school exclusions are intertwined. One study found a relationship between parental mental health, family poverty, and poor parenting behaviour (Cooper & Stewart, 2013). The same study pointed out that poverty can affect the social, emotional, and cognitive development of a child. It was also suggested that family poverty adversely impacts school attainment.

Other studies have held that there is an interaction between ethnicity and risk factors. For example, Shaw et al. (2016) pointed out that black children are more likely to live in poverty, with more than 25% eligible for Free School Meals (FSM). The same research posited that black children start their school with the same average attainment but by the time they reach secondary school they have, on average, fallen behind their peers in terms of attainment.

Teachers' attitudes play an important role in this interaction between ethnicity and other contributory factors. For example, one study pointed out that racist stereotypes lead to an unconscious bias of teachers towards behaviours and the personality of pupils, particularly black children (Okonofua & Eberhardt, 2015). This unconscious bias could contribute to more school exclusions by misunderstanding the behavioural patterns of pupils from different backgrounds which are considered 'normal' by pupils from that culture.

Another aspect of family factors that may play a role in school exclusions is the quality of parent-teacher relationships (Compher, 1982). For example, where the relationship between parents and teachers is defined by mistrust and/or conflict, children may face more academic and behavioural difficulties (Vickers & Minke, 1995).

Finally, as with school absences (see Chapter 5), socio-economic circumstances have widely been seen as important for considering school exclusions. For example, Martin Narey, Chief Executive of Barnardo's, noted that:

> It is a shocking fact that poor children on free school meals are up to five times more likely to be excluded from school than their better-off counterparts. Pupils with special educational needs are ten times more likely to have their education disrupted because of school exclusions. But for many, bad behaviour in school is a result of real difficulties outside school (as cited in Evans, 2010, p. 1).

This evidence attributes school exclusions to deprived family and home circumstances. However, other evidence suggests that school factors also have an impact on school exclusions. The next section discusses these.

5.3.3 School determinants

Although the influence of out-of-school experiences on children's behaviour cannot be ignored, centering the discussion on individual and home factors could distract attention away from the extent to which "the school organization, leadership and management were also pointed out as leading to significant changes in pupils' behavior" (Araújo, 2005, p. 254). Therefore, examining the role of school factors in determining school exclusions is important if we are to comprehensively understand the factors which contribute to school exclusion.

According to (Barkley, 2014), teacher-student harmony is inevitably influenced by the discordance between teachers' standards of acceptable behaviour, pedagogical styles, and the behaviour of the children. The knowledge, attitudes and beliefs of teachers shape the reciprocal interactions between teacher and pupils. Therefore, the judgment of teachers towards children's behaviour - whether such behaviour is volitional or unintentional - could be impacted by their prior knowledge of those children.

The theory of attribution (Weiner, 1985) explains how individuals' interpretations of their own and others' behaviours impact motivation. One study indicated that when teachers believe that children' misbehaviour is outside their responsibility, they are likely to attribute unsuccessful behaviour management to be beyond their control (Gibbs & Gardiner, 2008).

Evidence from one study illustrating the impact of teachers' beliefs in their ability to manage behaviour (Gibbs & Powell, 2012) showed that the school exclusion rate was lower in schools that instill in teachers a belief in their capacity to handle the diverse and often difficult influences of home and community which children bring with them into the school environment. In contrast, low-self-efficacy teachers were reported as less tolerant of behavioural problems and more likely to directly seek school exclusion as a measure of dealing with challenging children (Jordan & Stanovich, 2003). This evidence shows the importance of self-efficacy in managing behaviours. Having a belief in one's pupil-managing capabilities could influence the implementation of alternative solutions to challenge behaviours, thereby protecting some children against exclusion.

Similarly, the perception of belonging to an inclusive organisation could help to mediate the relationships between teachers and pupils who bring exhibit difficult behaviours (Friedman & Kass, 2002; Miller, 2003). Therefore, the wider school management system – its discourses and attitudes to behavioural challenges - can have a crucial impact at the level of the individual teacher. This impacts in the first place how individual teachers perceive themselves as an integral part of the school culture (Bandura, 1977). At pupil level, one study showed that if a school's ethos emphasises achievement and competition, low attaining children show fewer responses and are at increased risk of disengagement from learning (Gazeley, 2010). Therefore, children who have feelings of low self-efficacy because of the school culture and ethos may translate their feelings into challenging behaviour, which in turn may lead to exclusions.

Evidence of one recent longitudinal study of secondary school pupils in England suggested an association between school-level 'rigid boundaries' with risk behaviours such as alcohol consumption and bullying, particularly for disadvantaged children (Bonell et al., 2019). Therefore, harmonious relationships within schools and the cultivation of a sense of belonging are crucial to facilitating engagement in learning. Schools that fail to engage their pupils seem less likely to generate a culture of shared belonging and at the same time ignore pupils' needs, which in turn may lead to misbehaviours that may end in a greater risk of school exclusion.

There is also a range of school factors which appear to impact attitudes to and the management of challenging behaviour, such as 'teacher-setting compatibility' (including teaching styles and preferences), pupil preferences, the school environment, and 'child-setting compatibility' (including class sizes, the arrangement of seating, and whether the class environment is open or closed) (Greene, 1995).

5.4 Inclusion vs Exclusion

Pupils identified as having BESD are often considered the most challenging to integrate into 'inclusive education' (Visser et al., 2002). It has been proposed that the important principle of inclusive education is that all children, irrespective of their individual backgrounds and differences, should learn together, where possible, and schools must recognise and respond to the different needs of their pupils (UNESCO, 1994b).

National statistics show that "at Key Stage 4, 12% of looked after children with a SEN achieved 5+ A*-C GCSEs including English and Mathematics compared with 37% of children without a SEN" (DfE, 2010, p. 2). Looked after children are among the most disadvantaged groups in society, and they are most likely to be at risk of school exclusions compared to their peers.

Parsons has argued that excluded children need more time with professionals to address their educational needs besides their emotional and social problems (Parsons, 2002). Schools often maintain that they have had to exclude pupils that persistently display challenging behaviour in order to provide a 'distraction free' education for other children (Vincent et al., 2007). However, some studies have argued that schools use exclusions to protect their academic track records by removing low attainer children from school registers (Berkeley, 1999; Sullivan, 2018). One study found that 20,000 pupils disappeared from secondary school rolls in 2016 when they were close to sitting their

GCSEs exams and did not appear in any other school (Thomson, 2016). Similarly, an Ofsted report showed that 'a large number of pupils' on school records are off-rolled before GCSEs exams to game performance tables (Ofsted, 2017, p. 6).

This means that the competing demands made on schools by government guidance – the drive to maximise examination results in competition with other schools on the one hand while including children from all backgrounds and abilities on the other hand - appear contradictory. (Wakefield, 2004). However, a recent publication pointed out that there is a plan under consideration at the DfE that would oblige schools to include the prior academic results of their permanently excluded pupils (from when they were still pupils at the school) in annual league tables to enhance school transparency and accountability (Bannett, 2018).

Research has identified a clear association between the disciplinary processes of schools and social inequalities (Daniels & Cole, 2010; Gazeley, 2010; Gazeley et al., 2015; Munn & Lloyd, 2005). Also, the continuing patterns of school exclusions suggested that pupils from disadvantaged backgrounds were over-represented (Gazeley et al., 2015). A review of national data by the Office of Children's Commissioner (2012) showed disproportionate exclusion rates among disadvantaged groups of children. The pattern emerging from the analysis showed that excluded children are likely to be boys, with a SEN, from an ethnic minority, and eligible for FSM. The 2018 Campbell Collaboration Review of school exclusion interventions concurred with the OCC's findings (Valdebenito et al., 2018). Also, a recent analysis by the DfE shows that for every one girl permanently excluded from school, three boys are excluded (DfE, 2017b). Moreover, black pupils of Caribbean descent are disproportionately educated in APs for excluded pupils (DfE, 2017f).

According to the DfE (2017b), on average children from low-income families are four times more likely to be excluded from school than other children. Another DfE report showed that 55% of primary school-aged pupils and 40% of secondary school-aged pupils of excluded pupils received a FSM, a standard measure of poverty (DfE, 2017f). Moreover, children who are in care are twice as likely to be excluded from school than children who are not (DfE, 2017a). Moreover, 'children in need' who are still living at home and receive social services are three times more likely to be excluded from school than other children.

The DfE (2017b) reported that children with a SEN are seven times more likely to be excluded from schools than children without such needs. The overrepresentation of disadvantaged cohorts within school exclusions statistics suggests a tendency to push disadvantaged and difficult individuals away from 'common aspirations' (Power, 2000). Therefore, the exclusion of SEN children seems to contradict the concept of 'inclusive education' which seeks to ensure the right of every child to a full-education irrespective of their needs.

5.5 The social costs of school exclusion

Evidence shows that excluded children are "likely to suffer long-term mental health problems, fail to achieve basic levels of literacy and numeracy, struggle to gain qualifications needed to access work, to be long-term unemployed, and to repeatedly involved in crime" (Gill et al., 2017, p. 23). Parker et al. (2016) suggested a multifaceted relationship exists between school exclusions and children suffering mental health issues. They found that exclusion could cause long-term psychological illness and worsening existing mental health illness. The same study found a high incidence of self-harm among the sample of excluded pupils they reviewed, caused by such issues as loss of a friend and a lack of trust with a teacher. Therefore, school exclusion seems to be a form of social exclusion that further alienates children from society.

Analysis by the DfE (2017e) showed that only 1% of excluded pupils who sat their GCSE exams in PRUs and APs achieved five good grades, including English and Maths. The same source showed that most of the excluded pupils are not even enrolled in the two core GCSEs of English and Maths. School exclusions seem to be preventing children from fulfilling their academic potential.

Basic levels of numeracy and literacy are essential for entering a training course, semi-skilled employment or a low-skilled apprenticeship (Commission, 2016). A longitudinal study Youth Cohort Study conducted in England in 2011 showed that nearly 87% of pupils who had never been excluded from school achieved a level 2 qualification by the age of 20 compared to only 30% of excluded pupils (DfE, 2011c). This evidence is consistent with previous studies that have shown how school exclusions prevent children from receiving their basic right to education and leave them outside the education system instead of meeting their needs. The Youth Cohort Study cited above shows that 27% of excluded pupils were not in employment, education, or training for one to two years when they were 19 years old compared to 10% of non-excluded pupils at the same age (DfE, 2011c).

There is also an established link between school exclusions and criminal activity. Studies have shown that the majority of prisoners in the UK have a history of school exclusions, for example, is a longitudinal study of prisoners found that 63% of the sample reported that they had experienced fixed school exclusions and 42% of them had been permanently excluded from schools (Williams et al., 2012). Moreover, these prisoners were also more likely to be repeat offenders than other criminals. One recent publication raised the probability of a link between school exclusions and knife crime, which has increased by 76% since 2013 according to (Mix96 News, 2019).

One researcher is quoting at length on the social costs of school exclusions:

> Disruption and indiscipline in schools need to be addressed. But both the disproportionality of exclusions for some groups, notably the poor and those already marginalised, and the negative consequences lifelong for those who experience exclusion, plus the harm and cost falling on the wider society, strongly suggest that alternatives to exclusion need to be found. Social cohesion is not helped by the present exclusionary and punitive approach (Parsons, 2011, p. 4).

Therefore, giving up and demanding that certain pupils leave schools either formally or informally seems to be having a deleterious impact on society. Instead of this punitive measure, alternatives need to be identified and tried that will resolve the problem and keep the school environment safe *and* appropriate for teaching and learning.

5.6 The economic costs of school exclusion

In addition to the personal costs of school exclusion, the economic costs have been extensively researched, for example a study put the cost of school absences and exclusions (from lower earnings, inflated health and social service costs, and higher crime rates) at an average of £63,851 per excluded child to society and an average of £44,468 per persistent truant, while the total aggregate cost of all exclusions was estimated to be in the region of £650m per annum (Brookes et al., 2007).

According to Gill et al. (2017), the UK think-tank the Institute for Public Policy Research (IPPR) estimated that the economic cost of exclusion stood at approximately £370,000 per excluded pupil. The same research used official 2016 government figures for exclusions and estimated the cost of the total cohort of permanent exclusions (n = 6,685 pupils) at £2.1 billion. This calculation includes:

> Education in the alternative provisions, lost taxation from lower future earnings, associated benefits payments (excluding housing); higher likelihood of entry into the

> criminal justice system; higher likelihood of social security involvement; and increased average healthcare costs (p. 22).

5.7 Preventing school exclusions

According to DFE guidance, different strategies should be found to address behaviours which may lead to school exclusions; 'reasonable prior steps would include alternative sanctions; interviewing the pupil and parent; issuing a formal warning: withdrawing from class; or involving social services or the police'(Gillie & Allen, 1996, p. 37). Schools are responsible for establishing school behaviour policies that ensure consistency and reward for good behaviour. Behavioural policies should be widely published so as to be known by parents, pupils, and staff (Hayden & Martin, 1998). Being aware of the sanctions could prevent some behaviours that may end with school exclusions.

Schools are given the discretion to use the funding to support children with additional needs (Wakefield, 2004); this gives more flexibility to target children based on their needs. Interventions to support at-risk children could be through using some resources such as Learning Mentors, Learning Support Assistants, Pastoral Teachers, and setting up Behaviour Support Units or Seclusion/Inclusion Rooms (Gilmore, 2012). Many secondary schools offer internally fixed-term exclusions which are not seen as 'time off' for children by inspectors (Barker et al., 2010).

One study suggested that schools that succeeded in preventing school exclusions have established and used workable policies that target the underlying causes of such behaviour and offer strategies such as pastoral support programmes and support from behaviour specialists (Eslea, 1999). Vocational training courses for Key Stage 4 pupils are another means of intervention to support the needs of pupils (Wakefield, 2004). When within-school support does not result in improving behaviours, schools are advised to use external services, which could lead to multi-agency interventions.

A range of multi-agency interventions has been used to reduce school exclusions. Examples of these interventions are Behaviour Improvement Programme (BIP), Connexions services, Targeted Mental Health in Schools initiative (TAMHS), the Common Assessment Framework (CAF) and Team Around the Child (TAC) processes, Pastoral Support Programs (PSP), and the funding of Parent Support Adviser (PSA) services in schools to provide linked up support to families where children are experiencing difficulties (Lally, 2013).

Some studies have reported a successful decrease in school exclusion rate by utilising interventions that link between school and home and supporting agencies (Gilmore, 2012; Vulliamy & Webb, 2003). One study showed the positive effect of using 'inclusion rooms' to reduce fixed-term exclusions over five years of implementing this strategy (Gilmore, 2012). The study suggested that keeping pupils within the school context enabled them to access the curriculum and be a part of the school community. Vulliamy and Webb (2003) found a reduction in fixed exclusions over three years when social work trained home-school support workers were placed in schools with the target to minimise school exclusions.

According to findings of a Campbell Collaboration Review 2018, interventions that have intended to mitigate the negative effects of school exclusion sanction range from enhancing academic skills, mentoring, monitoring, and counselling disadvantaged groups of pupils (Valdebenito et al., 2018). Some interventions have targeted teachers by offering them training to support children with behavioural challenges. According to the same review, the effect of these interventions was not long-lasting. The evidence shows that successful interventions exist; however, they are not always implemented and/or cannot guarantee success. Therefore, unless the needs of children and their families are closely addressed to prevent behaviours that may lead to school exclusions, the problem will likely persist.

5.7.1 Managed moves and illegal exclusions

UK governmental guidance encourages schools to collaborate to find a fresh start for at-risk pupils of permanent school exclusions (Graham et al., 2019). 'Managed moves' are means used by authorities to implement this guidance. A 'managed move' is a process in which two schools collaborate to provide pupils that are at risk of school exclusion a place to enable them to have a new start in their educational journey (Vincent et al., 2007). Although successfully managed moves may prevent formal school exclusions and their negative effects on pupils and schools, there is no formal regulation that obliges schools to report managed moves to Local Authorities.

Informal school exclusions are another alternative used by schools to avoid officially recorded exclusions (Office of the Children's Commissioner, 2013). Pupils at risk of permanent exclusions may receive home tuition, or be dual registered at two schools (special school and PRUs) or may be placed on part-time timetables.

Evidence has shown that, as part of a managed move, 1,570 children sat their final exams in the PRUs, where they had completed their education (IPPR, 2017). These children were not recorded as excluded from their school while they had, in functional terms, been excluded. This number of pupils is equivalent to 23% of the entire reported rate of permanently excluded in the previous year. A recent survey found that schools use alternative offsite provision widespread. These alternative institutions were used to provide full-time education for about a quarter of schools (Smith et al., 2017). According to the author, pupils spend a full academic year or longer there. These pupils were excluded from their actual mainstream school and were educated in an alternative setting.

PRUs account for a large number of excluded pupils from mainstream schools (Department for Children and Schools, 2008). Although the aim of establishing a PRU is to improve behaviour, school attendance and learning, studies have described these settings as 'dummy grounds' for schools facing challenging behaviour (Curtis, 2009). One study in Wales suggested that pupils' experiences in exclusions and AP is 'highly variable', there was uneven pastoral support, curricula were inappropriate and the chances for success and re-integration were slim (McCluskey et al., 2015). Therefore, these alternative institutions seem to be in need of more educational equipment to meet the needs of their children.

The shortages of teachers and vacancies are a continuing challenge for the education sector in England (House of Commons Education Committee, 2017). However, it is a particularly serious problem in the Alternative Provision sector. It has been observed that the number of vacancies for teachers tripled between 2011 and 2016 in both maintained and special alternative schools (Gill et al., 2017). The same research indicated that vacancies number in Alternative Provision were 100-150 % higher than secondary schools in the mainstream sector. One research attributed the poor reputation of Alternative Provision to the challenges of recruitment (Thomson & Pennacchia, 2014).

Research has considered the rise in the number of home-educated children as a sign of hidden exclusions. One study found that 37,500 pupils converted to home-education in 2015/2016 (Association of Directors of Children's Services, 2016). A study noted that the reasons for the choice of home-education are changing from religious and ideological reasons to concerns for a child's welfare or difficulties related to attendance and behaviour, such as a threat of prosecution or exclusion (Staufenberg, 2017). According to the Office of the Children's Commissioner (2013), 1.8 % of schools have convinced parents to educate their children at home.

Many alternatives to school exclusions present challenges for children and in certain cases could be considered exclusions by the 'back door' (Busby, 2018). Local authorities have to provide education for all school-aged children; however, some schools are failing in this respect by using a range of processes seem reducing the quality and amount of education input these pupils receive (Gray & Panter, 2000). According to a report by House of Commons Committee (2018) which discussed school exclusions and APs, nearly a third of schools failed to provide an adequate education for excluded children.

To date, little is known about 'what works' in these APs to help excluded pupils to achieve their potential. Recently, the DfE commissioned a review to evaluate evidence for effective strategies used in the AP sector. The findings of this review suggested that few programmes are monitored and assessed effectively by Alternative Provision staff and providers (Tate & Greatbatch, 2017).

5.8 Summary

This chapter has discussed the most significant topics and concerns of school exclusions using national evidence published by the government and media to address the problem of exclusions. The main argument set out concerns the overrepresentation of disadvantaged children in school exclusion records and the ambiguous practices of schools to avoid formal exclusions. The chapter also examined in depth the determinants of school exclusions, which are related to individual, home, and school, relating this discussion to the evidence from the relevant existing literature. The social and economic costs of school exclusions were discussed to show the high costs of such practices. In sum, school exclusions are a complex issue that requires patient and meticulous analysis. The next chapter will present in detail the research design and the methods in such a way that future research would be able to replicate the current study.

CHAPTER 6 RESEARCH DESIGN AND METHODOLOGY

6.1 Introduction

This chapter provides details of the research design and methods used to answer the research questions. In the current study, all the decisions related to the designs and methods were based on the research questions so as to ensure that they can be answered adequately (De Vaus & de Vaus, 2001; Gorard, 2013; White, 2008). However, other considerations - accessible resources, time, financial constraints and ethics - were considered from the stage of planning the research.

6.2 Research design

The study is a longitudinal cohort design. This design was chosen in order to determine patterns of attendance and exclusions over time. Achievement at KS4 is the main outcome of interest, so the selected cohort was tracked for their prior attendance and academic attainment records.

This research comprises three stages. The first stage was an analysis of the National Pupil Database (NPD), used to answer the first three research questions. The second stage was a systematic review of school attendance interventions, used to answer the fourth research question. The included interventions targeted both school attendance and academic attainment of disadvantaged groups of children. The final stage involved interviews with school teachers to explore their perceptions of school attendance and exclusions especially of pupils from disadvantaged backgrounds, used to answer the final research question. Table 6-1 presents a summary of the research design and the methods used for each of the research questions of this study.

Table 6-1: Summary of research design, the source of data, and methods of analysis

Research question	Research design	Source of data	Methods of analysis
1/ Which pupils in England are recorded as absent, persistently absent, and/or excluded from school?	Cross-sectional	Secondary data (NPD)	Percentages, means, cross-tabs, Cohen's effect size
2/ To what extent do background characteristics, prior attainment, and school-type predict authorised absences, unauthorised absence, and/or exclusion from school?	Causal-comparative and Correlational	Secondary data (NPD)	Percentages, means, cross-tabs, binary logistic, multiple linear regression models
3/ To what extent is absence, persistent absence, and/or exclusion from school linked to pupils' academic attainment at KS4, once background characteristics and prior attainment are accounted for?	Causal-comparative and Correlational	Secondary data (NPD)	Pearson correlation, binary logistic, multiple linear regression models
4/ Is there any evidence of effective interventions that have improved the school attendance behaviours of disadvantaged pupils and also has a positive impact on their academic attainment?	Systematic review	Literature on school attendance interventions	Descriptive analysis, synthesising, scaling the achieved evidence
5/ What are the perceptions of teachers in England about school attendance of the disadvantaged pupils?	Cross-sectional	Fieldwork data collected by interviews with school teachers	Thematic analysis

A detailed description of research designs and methods is presented on a stage-by-stage basis below.

6.3 The first stage: Analysing NPD data

The NPD was used as the main source of the data, a choice based largely on the quality, type, and richness of information that the NPD, one of the world's richest education datasets, offers. It covers a wide range of information about pupils at state-funded schools in England and provides invaluable data on educational achievement to inform studies that are run by the department itself as well as those undertaken by independent researchers. The sources of this data are schools and Local Authorities (LAs) in England, which are requested to provide information three times a year to the DfE. Moreover, the Department for Education (DfE) in partnership with the Economic and Social Research Council and the University of Bristol.

controls the centralised online management system where staff are dedicated to ensuring data collection, accuracy, and completion.

The DfE established the NPD for several purposes. One of these purposes is to develop and improve schooling in England by pooling the rich data with third parties and researchers investigating educational issues. Pupil's absenteeism and academic attainment are considered priority issues (DfES, 2008). The NPD has been found to be the most useful and reliable source of data in terms of exploring a large and diverse range of research projects on school attendance, exclusions, and academic attainment (FFT Education Datalab, 2018). The data covers all school-levels, enabling researchers to track pupils' attendance, exclusions and performance via a Unique Pupil Number (UPN). The database also provides a Unique Registration Number (URN) for each school, enabling researchers to track schools. Both numbers are valuable for locating and concentrating on certain types of school. Furthermore, the NPD covers individual pupil level information - date of birth, date of school enrolment and leaving, gender, ethnicity, language, Special Education Needs (SEN), and Free School Meal status (FSM) - information useful for examining the background characteristics of the studied cohort.

Moreover, enables researchers to generalise to the wider population and make more convincing claims than what can be made based purely on samples. It provides an opportunity to explore the significance and meaning of the data, its quality, and completeness, which are essential factors for conducting any rigorous study (Gorard, 2015). Finally, NPD is a useful resource to identify and explore a range of education-related problems and can be adopted as a secondary or main method (Gorard, 2013).

6.3.1 The process of applying and achieving the data

To access the NPD, two forms of applications need to be completed. One of them, titled 'Data Request Application Form', asks seven questions ranging between personal information and those related to the proposed project (requested data, why, aim and objectives of the project, what contribution of the project to the field of education, some security issues, and the audience). The second form, titled 'The National Pupil Database and/or Linked Data Information Security Questionnaire', contains request details, contact details, and security questions related to information security policy, technical system description, physical security, data handling, staff awareness, risk assessment, audit and monitoring, sanitisation and disposal, and third party access.

6.3.2 The achieved data

The received NPD datasets are summarised in Table 6-2.

Table 6-2: Description of the achieved NPD dataset files

No	Received file	Description
1	NPD absence 2009	3 sets of absence data for academic year 2008/2009 for pupils with KS4 record in 2013/2014
2	NPD exclusion 2009	Exclusion data for academic year 2008/2009 for those pupils with KS4 record in 2013/2014
3	NPD absence 2012	3 sets of absence data for academic year 2011/2012 for those pupils with KS4 record in 2013/2014
4	NPD exclusion 2012	Exclusion data for academic year 2011/2012 for those pupils with KS4 record in 2013/2014
5	NPD absence 2014	3 sets of absence data for academic year 2013/2014 for those pupils with KS4 record in 2013/2014
6	NPD exclusion 2014	Exclusion data for academic year 2013/2014 for those pupils with KS4 record in 2013/2014
7	NPD KS4Candlnd 2014_KS3_KS2_KS1_Census and NPD KS4 Result 2014	Contains Final KS4 Candidate/Indicator data for 2013/2014 matched to their KS3, KS2 and KS1 prior attainment and to School Census Spring 2013/2014
8	NPD_ KS4_ Res_ 2014	Contains Final KS4 Result data for 2013/2014

I received eight files of data from the NPD (see Table 6-2). Three files for absence data, three files for exclusions, and two files for academic attainment (including some background characteristics).

The NPD has different levels of data in terms of the sensitivity of the included information. The first level of data includes highly sensitive individual pupil data, as considered by the UK Data Protection Act 1998, such as names, addresses, and dates of birth. The second includes less sensitive individual pupil data such as ethnic group, FSM status, and language group. The third includes sensitive

aggregate school-level data such as "there is one white boy who is eligible for FSM and did not achieve Level 4 in Maths and English at Stage 3". The fourth includes individual-level data which is not considered sensitive, such as prior attainment and absence (DfE, 2015c, p. 19).

The received data came from the second and fourth types of the NPD, as explained above. Most of the variables were Yes/No answers, such as if a pupil had ever been recorded as eligible Free School Meal (FSM) or with a Special Educational Need (SEN). Other data concerned ethnicity and first language. This data was for KS4 only.

Due to the potential risk of missing data or subject attrition – problems that have occurred in many longitudinal studies (Gustavson et al., 2012) - the percentage of missing data in each indicator was examined.

6.3.4 The quality of the indicators

A process of cleaning each file, removing duplicates, merging files, merging absenteeism with exclusions, and finally merging all with Key Stage results was conducted. Although the NPD has data collected from schools and education authorities following standard protocols, there are no perfect indicators due to missing data, errors or self-reported information. Therefore, the first step was a simple descriptive analysis to identify the missing data from all indicators in order to examine the quality of these indicators and determine the extent to which these indicators can be used for further analysis. Then, according to the amount and type of missing data, I decided how the missing data would be treated so as to limit any possible errors or to limit the possibility that the results were unreliable or misleading.

As shown in the achieved data section, there was a divergence of outcomes. The achieved outcomes were absence data, exclusion data, and academic attainment data for the academic years 2009, 2012 and 2014. A certain amount of school-level data and contextual data (background characteristics of pupils) was included. Therefore, missing data in each indicator were identified and treated.

6.3.3 Treatment of missing data

The decision of how to treat the missing values in each indicator was based on the type of indicator and level of analysis that these indicators were used for. Absence information is collected at enrolment level, not pupil level. Therefore, some pupils have more than one piece of recorded absence

data because they changed their school one or more times over an academic year. After matching the achieved absence data for the three school years (2008/9, 2011/12 and 2013/14), missing school absence data were treated in two different ways for analytical purposes. In the descriptive analysis, missing values in the absence data were recorded as missing to gain the real percentages of absences. In SPSS, regression analysis drops all data that have a missing value for any variable entered the model. Therefore, in regression analyses, missing absence data were replaced by the average absences of the whole cohort instead of losing the cases from the data, which might well have been the most representative ones for school attendance. At the same time, school absence session variables were valid and could be used as a measure for school attendance in the study.

Exclusion data is aggregated with the school absence rates for each excluded pupil by the school system (Sheppard, 2010). However, school exclusion data are recorded differently from school absences. Exclusion data were available only for pupils who had been excluded from schools during the included three academic years (2008/9, 2011/12 and 2013/14). In other words, all other pupils who had no school exclusion had no exclusion data. Therefore, it was decided to deal with exclusion data differently in this research. Missing values were coded as (0) and assumed as having no exclusion instead of treating them as missing. Thus, it became safe to use exclusion indicators in the analyses without worrying about the accuracy of the results.

Due to the divergence of the methodologies used to assess pupils' academic achievement at different key stages, it was decided to choose variables that could be matched to stand for each stage for consistency of the data for the performance at those stages. Some variables were converted from levels to point scores such as Maths and English results. Then, the missing data were replaced by the average point scores. These cases may still be valuable. Giving them average score minimise impact of missing data on analyses. This treatment was only done for Key Stage 2 academic attainment, where the results were presented in the form of levels.

Contextual data includes information related to pupils' contexts and backgrounds. These data are important for indicating the environmental circumstances that the pupils come from and provide certain personal characteristics that may have a role in determining school attendance, exclusions, and academic achievement. The included indicators were age in months, gender, FSM status, SEN, EAL, and ethnicity. These variables were provided for KS4 pupils for the academic year 2014 only. Missing data from these indicators were treated with more caution because these indicators were the

only data related to pupils' backgrounds, which is essential to determine the individual characteristics of members of the cohort. Another reason is that the missing data might be for the most disadvantaged pupils. Therefore, following Gorard, FSM missing data were treated as a third category of pupils instead of considering them as non-FSM (Gorard, 2012). Missing background data were thus treated as missing values in the stage of descriptive analysis to take advantage of the rest of the data related to these pupils. In the regression analysis, missing data were coded as a third category (FSM missing, SEN missing, and missing EAL).

6.3.4 Methods of NPD analyses

First, new variables, at both pupil- and school-levels, were created from the original ones to prepare the data for analysis. Some of these variables were binary categories, especially those used in 'effect' size calculations and then in regression models, in order to make clear comparisons between the different groups of pupils. Ethnic groups variable was converted for the purposes of analysis into a binary variable (White, Non-White). This aggregation is used to simplify the results because many of the minority ethnic groups are very small and their contribution to the results was very minimum. The new variables delivered from the data including the following factors:

<u>School attendance</u>

The new school attendance variables were aggregated from three school terms - autumn, spring, and summer - for each Key Stage, as follows:

- Authorised absence sessions for KS2
- Unauthorised absence sessions for KS2
- Overall absence sessions for KS2 (sum of both authorised and unauthorised absence sessions)
- Authorised absence sessions for KS3
- Unauthorised absence sessions for KS3
- Overall absence sessions for KS3
- Authorised absence sessions for KS4
- Unauthorised absence sessions for KS4
- Overall absence sessions for KS4

- Persistent absentee (Yes/No). (The categorisation of pupils was based on the number of missed sessions from school. If a pupil missed more than 45 sessions per year, the pupil was assumed to be a persistent absentee)

School exclusions

- Fixed exclusion sessions for KS2 (aggregated fixed exclusions for the academic year 2009)
- Permanent exclusion sessions for KS2 (aggregated permanent exclusions for the academic year 2009)
- Fixed exclusion sessions for KS3 (aggregated fixed exclusions for the academic year 2012)
- Permanent exclusion sessions for KS3 (aggregated permanent exclusions for the academic year 2012)
- Fixed exclusion sessions for KS4 (aggregated fixed exclusions for the academic year 2014)
- Permanent exclusion sessions for KS4 (aggregated permanent exclusions for the academic year 2014)

Academic attainment

The academic attainment variables were converted from levels into point scores in order to create continuous variables for attainment in KS2 and KS3, as follows:

- KS2 Maths point scores
- KS2 English point scores
- KS3 Maths point scores
- KS3 English point scores

School

- Primary school type attended (community, academy, foundation, faith school)
- Primary school mobility (if a pupil joined the school in the latest academic year)
- Secondary school type attended (community, academy, foundations, faith school)
- Secondary school type attended (non-selective and selective schools)
- Secondary school mobility (if a pupil joined the school in the latest academic year)

Pupil characteristics

- Age in months (calculated from day and year of birth)

- Ethnicity (White, non-White)
- Special Educational Need (SEN, non-SEN)
- First language group (English, non-English).

The analysis process graduated from simple descriptive analyses and 'effect' sizes to more complex regression models for the different outcomes (school attendance, exclusions, and academic attainment).

6.3.4.1 Descriptive analyses

After the data cleaning process, different simple descriptive analyses were conducted at pupil and school levels to explore the data and build a picture of what variables existed and how to use them purposely in the process of analyses to answer the research questions. This type of analysis was helpful to set the scene for the research problem and ascertain its dimensions.

The first step was devoted to exploring the missing data and examining whether it mattered or not in terms of its quantity and quality. Simple descriptive analysis was conducted to assess the percentage of missing data for each indicator and outcome. Further, pupil and school-level missing data were explored to determine who these pupils were via the received data for school attendance, academic attainment, and individual background characteristics.

Then, descriptive analyses were used for the whole dataset. The percentages of absentee pupils were compared by Key Stage. These comparisons were conducted to determine where the problems of school attendance and exclusions were more prominent. Groups of pupils (pupils were grouped based on their background characteristics) were compared in terms of school attendance (percentage and averages of absence sessions (authorised and unauthorised) and school exclusions (fixed and permanent)), to shed light on the main characteristics of school absentees and excluded pupils at KS4. Most of the achieved fields in the data were used as variables.

After that, comparisons were made between school types for primary and secondary schools in terms of averages of absence sessions (authorised and unauthorised), and averages of school exclusions to determine the role of school type in assessing school attendance and exclusions. Then, Cohen's 'effect' sizes were used, as explained below.

6.3.4.2 ‘Effect’ sizes analysis

After the simple descriptive analyses of all included variables, Cohen’s d effect size calculation (standardised mean difference) was used to examine the strength of the differences between groups of children based on overall school absences (number of missing school sessions during the school year) and school exclusions at KS4. The aim of conducting the effect size technique was to determine the magnitude of the difference between two groups of pupils and their school attendance and exclusions based on background characteristics. The variables used were FSM, SEN, EAL, ethnicity, and gender. These specific indicators were used because, on the one hand, these background characteristics are standard measures. Other studies have recently used these characteristics as indicators of disadvantage (Gorard & See, 2011; Strand & Demie, 2007). For comparability with the literature, it was decided to use similar measures of disadvantage. Research has shown that children from disadvantaged backgrounds are less likely to obtain good overall exam grades and even less likely to attend school regularly (Goodman & Gregg, 2010). Thus, there seems to be an interplay between disadvantaged characteristics and school attendance and academic attainment, and this which needs to be disentangled.

‘Effect’ sizes were firstly calculated for missing data (FSM, SEN, and EAL) in terms of school attendance (authorised and unauthorised absence sessions), school fixed exclusions, and academic attainment (KS4 capped point scores). This analysis explored to what extent missing data matter in terms of school attendance, exclusions, and academic attainment for KS4 pupils.

Then, the ‘effect’ sizes of the whole included dataset were calculated by finding the difference between the mean values of any two groups and dividing it by the pooled standard deviation of both groups. In terms of school exclusions, only the results of the ‘effect’ sizes of fixed exclusions were recorded. The ‘effect’ sizes of permanent exclusions were not calculated due to the limitation of the degree of freedom of permanent exclusions variable. Permanent exclusions data are limited to 0 or 1 permanent exclusion. There is no variation in scoring.

In the effect size calculations, there was no controlling for other different variables. Therefore, there was a need for a more sophisticated analysis in which the association between the outcome and other independent variables is measured and control for other variables included in the analysis. Thus, regression analysis was conducted to predict school attendance, exclusions, and academic attainment at KS4.

6.3.4.3 Regression models

The first and most important point that must be noted here is that regression findings only provide an estimation for making judgments; nothing will be tested (Gorard, 2013). No causality would be determined based on this type of analysis.

Binary logistic regression and multiple linear regression were used to create models to show how different explanatory variables such as background characteristics, prior school absences prior attainment, school mobility, and school types could predict pupils' school attendance, exclusions, and academic attainment at KS4. Table 6-3 presents a summary of the regression models of school attendance, exclusions, and academic attainment.

Table 6-3: Summary of school attendance, exclusions, and academic attainment models (N= 554,145 pupils)

N	Model	Dependent variable	Type of dependent variable		Type of model		Independent variables for all models
			Categorical	Numerical	Binary logistic regression	Multiple linear regression	
1	**School attendance**	Sum of authorised absences sessions at KS4 (Yes/No) (average of six binary logistic regression models using sub-samples)	✓		✓		**Block1**: age in months, gender, SEN, ethnicity, FSM, EAL **Block2**: KS2 maths point scores, KS2 English point scores, KS2 authorised absences, and KS2 unauthorised absences **Block3**: KS3 maths point scores, KS3 English point scores, KS3 authorised absences, KS3 unauthorised absences, KS4 school mobility, and KS4 type of schools
2		Sum of authorised absences sessions at KS4		✓		✓	
3		Sum of unauthorised absence sessions at KS4 (Yes/No)	✓		✓		
4		Sum of unauthorised absence sessions at KS4		✓		✓	
1	**School exclusions**	Total fixed exclusion sessions at KS4 (Yes/No) (average of six binary logistic regression models using sub-samples)	✓		✓		
2		Total fixed exclusion sessions at KS4		✓		✓	
1	**Academic attainment**	Achieve 5 GCSEs or equivalent A*-C (Yes/No)	✓		✓		
2		Capped GCSEs and equivalent point scores		✓		✓	

More details about the regression models of this study for all examined outcomes (school attendance, exclusions, and academic attainment) are presented below.

6.3.4.3.1 Binary logistic regression models

Four binary logistic regression models were run: two to predict school attendance via authorised and unauthorised absences at KS4; one to predict school fixed exclusions at KS4, and one to predict the academic attainment at KS4 (see Table 6-3).

A binary logistic regression model was created to predict authorised absences from school at KS4 level. This model was derived from six binary logistic regression models that were conducted to achieve adequate results as closely as possible. It is important to note that variables retained in the models are only the variables that contribute to the predictive power of the model (percentage of cases predicted correctly) in the hope of achieving the simplest model to include fewer indicators that can predict school attendance at KS4. Therefore, the retained variables in the models were found to be strongest among other available and examined ones in terms of adding power to the percentages of prediction.

The dependent variable was the sum of authorised absence sessions at KS4 (Yes/No). Following White and Selwyn (2013), differing from most binary logistic regression modelling found in social studies, the data sets were re-sampled randomly to create sub-samples in which both groups included in the analysis have equal numbers. Because the number of pupils that had no absence was 57,129 (10%) and the number of pupils that had at least one authorised absence was 497,016 (90%). This process was run several times. This methodology was adopted to construct a meaningful model, especially when dealing with binary variables that have been distributed unevenly such as the nature of the data set in this study. For example, the number of FSM pupils was 76,618 (14%) and the number of non-FSM pupils was 548,320 (86%).

In terms of the protocol of entering the independent variables in the regression models, following Gorard and Rees (2002), the dependent variables were entered into the models in three separate ‘blocks’, according to the chronological order which each group of variables impacted on the life of the individual.

The first block included characteristics present from birth (age in months, gender, SEN, ethnicities, and EAL). The second block included primary school indicators, namely KS2 Maths point scores, KS2 English point scores, KS2 authorised absences, and KS2 unauthorised absences. The last block included secondary school indicators, namely KS3 Maths point scores, KS3 English point scores, KS3 authorised absences, and KS3 unauthorised absences, KS4 school mobility and KS4 type of school attended.

A binary logistic regression model was conducted to predict unauthorised absence sessions at KS4. The dependent variable was the sum of unauthorised absence sessions at KS4 (Yes/No). The same consequence and number of blocks used in the authorised absences model were used. The difference here was the sample size and selection: the whole dataset was included.

In terms of school exclusions, the same strategy of re-sampling and entering variables into blocks for authorised absences models was used to predict school exclusions at KS4. The dependent variable was KS4 total fixed exclusion sessions (Yes/No). All available variables were examined to determine if they were of use in finding a model for school exclusions.

Another binary logistic regression model was also generated to predict academic attainment at KS4. The dependent variable was achieving 5 GCSEs or equivalent A*-C including English and Maths at KS4 (Yes/No). The same consequence and number of blocks used in the previous models were used here.

However, a further step of analysis was generated to gain more accurate and clear results by conducting multiple linear regression modelling to predict school attendance, exclusions, and academic attainment at KS4 using continuous variables as dependent variables. Before the next analysis was conducted, the assumptions for linear regression were considered. These assumptions are normality of regression residual, linearity, multicollinearity and singularity, and homoscedasticity. The results of the pre-analysis of these assumptions will be detailed later in this chapter.

6.3.4.3.2 Multiple linear regression models

Four multiple linear regression models were constructed: two to predict school attendance at KS4 via authorised and unauthorised absences; one to predict school fixed exclusions; and one to predict academic attainment at KS4 (see Table 6-3).

Two multiple linear regression models were created to predict school attendance at KS4. The first one used the KS4 sum of authorised absence sessions as a dependent variable, and the other model used unauthorised absence sessions at KS4 as a dependent variable. This technique was used to explore the differences (if any) between the types of absences in explaining school attendance. The variables entered the models in separate blocks following the same order that was used in the previous binary logistic regression models

In terms of fixed exclusions, one multiple linear regression model was conducted using the total number of fixed exclusion sessions as a dependent variable and using the same blocks and the same order of variables that were used in regression models.

Finally, one multiple linear regression model was conducted to predict the academic attainment at KS4 using capped GCSEs or equivalents point scores as a dependent variable. Blocks of variables were used following the same order used previously. Pupils' characteristics at birth were entered in the first block; primary school indicators were entered in the second block, in the third block, secondary school indicators were entered.

Before moving on to detail the second stage of the study, it is important to note that further regression models were run to predict school attendance, exclusions, and academic attainment for KS4 pupils. In these models, cases without background characteristic data were excluded from the analysis to determine the scale of differences that the missing data may make to the results (for the results of these regression models, see appendices 1, 2, 3, and 4). After comparing the results of the regression models that included the missing data (as a third category recorded as missing) with the results of the regression models that excluded the missing data, I decided to report the first models which considered the missing data because the results seemed meaningful although the difference may be negligible.

After obtaining the results from the NPD data analyses and discussing the main findings from this analysis, another stage of research was conducted: a systematic review of school attendance interventions.

6.4 The second stage: Conducting a systematic review of school attendance interventions

A systematic review was chosen to find evidence on effective approaches for the improvement of school attendance. The entire process of review in all stages (identification, selection, evaluation, and synthesis) and all assumptions and judgments were made explicit and open to replication. Therefore, the literature was reviewed in a systematic, replicable, transparent and scientific manner to search published and unpublished literature and review the researchers' decisions, measures, and conclusions. The main objective of this review was to examine the effects of school attendance interventions in terms of school attendance and academic attainment for disadvantaged pupils and to inform policy, practice, and research. The questions guiding this review were:

- Which school attendance interventions are currently effective in promoting the academic attainment of pupils from disadvantaged backgrounds in term of the available evaluated evidence?
- What are the characteristics of the effective school attendance interventions that enhance the academic attainment of the targeted groups in terms of their components and protocols?

6.4.1 The rationale of this review

The review was a further step in this study. Findings from the NPD analysis showed that the problems of low school attendance and attainment and the high rate of school exclusions are associated with the characteristics of pupils from disadvantaged backgrounds. This finding inspired me to take the step to investigate the extent to which school attendance interventions are effective in terms of promoting the school attendance and the academic attainment of a disadvantaged group of children.

The review seeks to determine robust evidence from any interventions to improve the school attendance behaviours and academic attainment of disadvantaged pupils. Furthermore, this review matters due to the demand for policy and practice for strong evidence-based interventions to tackle the problem of school attendance behaviours and increase the academic attainment of pupils from disadvantaged backgrounds. It was also helpful to explore the wider knowledge available on school

attendance behaviours and determine whether the problem of school attendance is an isolated problem or one which is associated with border issues.

6.4.2 Methods

The Campbell Collaboration Review's protocol format was followed as the outline framework guiding this systematic review (Maynard et al., 2012). This protocol format is internationally recognised as it supports rigorous screening methods, sound clarity of search strategies, robust selection criteria and clear arrangement of the presentation of results.

The current review was a team effort conducted through a collaboration between me, two expert staff members and a research assistant. The experts helped to search for relevant evaluations and suggested a variety of synonyms for search syntax, as well as rating the quality of the evidence of the included studies. The research assistant helped to examine the effectiveness of this review syntax in different electronic databases using various search strategies to obtain the most relevant results as were possible.

However, it was impossible for this review to proceed further and conduct meta-analysis due to the incomparability of the used samples. Although all included programmes targeted groups of disadvantaged pupils, the definition of disadvantaged varies greatly. In other words, each programme targeted a different group of pupils from disadvantaged backgrounds (i.e. the groups were deemed disadvantaged for different reasons). The targeted groups of the programmes included in this review ranged from orphans, low-income families, children with disabilities, to Romany Gypsy children. This review was conducted to inform policymakers and practice of the features of school attendance interventions that promote the school attendance of the disadvantaged children and enhance their academic attainment.

The following sections present the adopted protocol for this review.

6.4.2.1 Criteria for inclusion

The following criteria were used to determine whether a study would be included in this review or not in order to estimate the effects of an intervention programme. The inclusion criteria were types of study, participants, settings, interventions, outcomes measures, geographical contexts, and timeframe of field trials.

6.4.2.2 Types of study

This review included randomised controlled trials (RCTs) or quasi-experimental studies (QESs) with a comparison group that did or did not receive treatment. Although there is no gold standard design for any research, the quality of research design is measured according to what extent a design fits the research questions (White, 2008). This review raised causal questions, as previously set out in this chapter. Therefore, RCTs and QESs were deemed most suitable for answering these questions (Gorard, See, & Siddiqui, 2017). As a growing number of studies have used this approach, many popular foundations such as What Works Clearinghouse (WWC) and Education Endowment Foundation (EEF) have specialised in evaluating RCTs to locate valid evidence to help educators make evidence-based decisions.

6.4.2.3 Types of participants

Compulsory school-aged pupils (5-16 years old) that were deemed disadvantaged and having a problem with school attendance were included.

6.4.2.4 Types of setting

Any interventions that were conducted in primary or secondary schools were included in this review except programmes that were conducted for special occasions such as studies that assessed psychiatric day programmes or were conducted in residential facilities (because these programmes were over controlled).

6.4.2.5 Types of intervention

Any school attendance intervention that aims to tackle the problem of school absenteeism or reduce truancy, and one of the hoped for outcomes is to increase school attainment. Interventions could be in the form of providing food, money or any other incentives that encourage pupils to attend school regularly.

6.4.2.6 Types of outcome measure

The outcome measures of interest in this review were school attendance and academic attainment. Studies had to include a quantifiable measure (s) of school attendance such as the number of attendance days or absences, and a quantifiable measure (s) of academic attainment such as exam

scores. The studies only on the improvement of academic attainment were not selected because the main outcome of interest was an improvement in attendance.

6.4.2.7 Geographical Context

This review included studies conducted in different countries. There was no specific criterion for the study context. It was an attempt to explore various experiences in different geographical settings and environments. Nevertheless, there obviously are differences between educational systems and regulations in different countries around the world, and the design and implementations of the programme may be influenced by the nature of the contexts and tailored to meet the needs of this context. It is also possible to take advantage of existing experiences in terms of the methods used to select the sample, gather and analyse the data, the programmes' protocol, and the ways of interpreting the results. For example, nutrition incentives could work in developing and deprived contexts but may be less effective in developed/rich contexts. However, the targeted sample of the current review was disadvantaged pupils, and thus to some extent, common characteristics cross-country may be identified.

6.4.2.8 The time frame of the field trials

This review included studies conducted between 2000 and 2017 and written in the English language only. This timeframe was deliberately chosen to explore the most recent works that have sought to explore and combat the problem of school attendance effectively. The choice of English was to avoid any misunderstandings that might occur due to translation issues.

6.4.2.9 Criteria of exclusion

Studies that did not fit the inclusion criteria of this review that were explained above were rejected. The quality of writing was a key feature for initial decisions on inclusion or exclusion in this review. By the quality of writing what is meant is the clarity and simplicity in reporting the significant information of research, such as figures and graphs open to easy interpretation and fair judgment (Gorard et al., 2017).

6.4.3 Search Strategy

The search strategy of this review was designed to identify all relevant studies that met the inclusion criteria that were listed above. Eight popular and comprehensive electronic databases were searched systematically:

- British Education Index
- Eric
- Scopus
- Web of science
- PsycINFO
- Education Abstracts (H.W. Wilson)
- Educational Administration Abstracts
- ProQuest Dissertation and Theses Global database

The keywords used to search in these databases were: (absen* OR attend* OR truan* OR drop out OR suspen* OR exclud* OR expel* OR expulsion) AND (attain* OR achieve* OR "school outcome*" OR "test score* OR "test result*" OR "exam* score*" OR "exam* result*" OR "academic qualification*" OR "academic outcomes*) AND (trial OR experiment OR interven* OR program OR evaluat* OR treat*) AND (child* OR pupil* OR student* OR school*)

The date and language of the publications were specified to obtain the most relevant studies. As noted, the included studies must have been published between 2000 and 2017 and reported in English. In addition to the above databases, Google Scholar, Dissertation Abstracts and media sources were searched for 'grey literature'. Reference lists of identified studies were also searched to identify any relevant studies.

6.4.4 Screening and selection of studies

All obtained research reports were copied to Endnote to identify duplicates. The titles and abstracts of studies found during the search process were screened for relevance, and those that did not match this review criterion were screened out and considered ineligible (i.e. such as studies of irrelevant topics (medical, physics, drug abuse, teacher's training, disorder, and human sex differences), or studies that did not involve interventions or targeted an ineligible group of children such as preschool children or higher and post-secondary pupils rather than compulsory school-aged pupils). Some other

studies were also considered ineligible because they did not use either attendance or academic attainment as one of their outcome measures.

From the titles and abstracts it was still unclear whether some studies were relevant or ineligible for this review. Full-text copies of these studies were then reviewed. Each study was screened, and all the basic information that looked relevant and needed was reported. At this stage, interventions were coded into financial, counselling and mentoring, out-of-school education, health, school reforms, parental involvement, and school engagement for disadvantaged interventions.

The categorisation of the included intervention was based mainly on the protocol and implementation of these programmes. However, other components of the included programmes were considered such as the type of targeted groups because some of the included programmes targeted specified groups of disadvantaged children such as Romany Gypsy people (Rosario et al., 2017) and disabled children (Sakız, 2017), and the prime outcome of the programmes.

A key point to mention is that this categorisation of the interventions was not absolute because some of the included programmes could match more than one category, for example, school reform programmes such as School Improvement Grants (SIG) (Sun et al., 2017). SIG is a financial programme first and foremost. However, the implementation of this programme consists of various school reforms. Another example is that some of the programmes that were categorised as financial, such as school support interventions and the Strengthening Open and Flexible Learning to Increase Educational access (SOFIE) program (Cho et al., 2017; Jukes et al., 2014), also provided monitoring services and could thus be categorised as monitoring interventions.

6.4.5 The analyses procedure

Before the analysis of the obtained evidence, its quality was rated. The rating process was based on a framework via several components, including research design, the scale used (sample size), type of data, level of data attrition, and possible threats to the reliability and validly of the research findings.

The adoption of this framework was to assess the trustworthiness of the achieved evidence base using a sieve developed by Gorard (2014). The rating could be 0*, 1*, 2*, 3*, or 4*, in which 4* indicates solid robustness of the evidence and 1* indicates weakness of the evidence (see Appendix 5). As

noted, along with me, two experts shared and checked the ranking of the quality of the included evidence as a critical step in the analysis.

The next step was a descriptive analysis to examine and describe the data related to the characteristics of the included studies. The analysis described the included studies in terms of design, year, type, source of publication, and where these studies were conducted, targeted groups, and other outcome measures included (not school attendance and academic attainment). The results of these descriptive analyses were presented separately, followed by a description of the included interventions in terms of the targeted groups, the goals of the programmes, and the adopted protocol to implement the programme.

The following analysis summarises the results of the included studies in terms of school attendance and academic attainment, combined with the rating results. At this stage, the achieved results were synthesised based on the quality of evidence proposed by the included studies.

The achieved evidence was then scaled by comparing the quality of research, the direction of outcomes, and the number of studies to come up with final conclusions.

6.5 The third stage: Thematic analysis of the interviews with school teachers

In this study, a small number of interviews were then conducted as an additional source of data in order to allow me to explore the perceptions of school teachers regarding the school attendance situation of disadvantaged children in their schools. The perceptions of teachers could add a rich understanding of the issue of school attendance and exclusions and how these phenomena are understood from the perspective of key agents engaged in and knowledgeable about the processes associated with the challenges that disadvantaged pupils face in terms of school attendance and exclusions. However, it needs to be noted that this part of the study was small-scale in terms of the sampling of schools and teachers, only volunteering teachers were interviewed.

6.5.1 The process of recruiting the participants

I contacted 10 schools in England – six secondary schools (two academies, one studio school, and three community schools), and four primary schools in the same LA - by telephone and asked for informal meetings with teachers who have at least five years' experience dealing with school

attendance and exclusion issues. The targeted schools were willing to participate and welcomed my request.

6.5.1.1 The participants

Six school teachers volunteered to take part in the interview, all of them were female. Three of them have over 10 years' experience of working on policies of school attendance, and the rest had experience ranging from five to eight years. All of them were responsible for school attendance issues in their schools. Three of them were working in primary schools, and the others were secondary school teachers.

6.5.1.2 Semi-structured interview schedule

Interview guidelines advise that the interviewer structure the interview (where required) and to outline the key points that the researcher wants to address (Kvale & Brinkmann, 2009). The research questions linked to this part of the study influenced the themes and questions that were included in the interviews. Due to the nature of these interviews, it was deemed unnecessary to write a detailed script. Being semi-structured, there was flexibility in terms of asking open questions and the participants were free to direct their responses where they felt appropriate.

The focus of the discussion about school attendance and exclusions was based on four main themes, namely attitudes, awareness, action, and outcomes. These themes generated more detailed questions and were conceptualised in relation to the how and the why of school interventions. As Kvale and Brinkmann (2009) noted, interview questions should be different from the actual research questions. They suggested that the language used in an interview should be the everyday language which is understood by and accessible to everyone.

6.5.1.3 The process of collecting the data

The participants were interviewed face-to-face. These interviews were semi-structured so as to allow more flexible and open-ended questions. Some question guidelines were developed for interviews with school teachers (see Appendix 6). The flexible nature of these interviews offered the participants the opportunity to express their views and concerns freely, an approach which could allow new information to be highlighted that might be useful for the research project. The participants' responses were recorded in notes taken by the researcher.

6.5.1.4 Coding and analysing the data

The responses have been repeatedly read to explore any possible patterns of information about school attendance and exclusions. In addition, to find the main themes to be analysed, the results were coded, retrieved and then analysed following a thematic content analysis method to interpret the main findings.

6.6 Ethical considerations

During the process of planning and conducting the data collection and analysis for this study, every effort was made to ensure that the study followed the ethical guidelines described by the British Educational Research Association (2011). The ethical form was completed where all ethical considerations were concerned, and the form was approved by the University of Durham. A copy of the ethical approval form can be seen in Appendix 7.

This study is mainly based on secondary data analysis. As noted, the dataset was delivered from the NPD. In the application form, there is a section that requested the researcher to ensure data security and protection. The dataset was kept encrypted and password protected in my device. I did not share it with any third parties, and nor did I upload the data to any online storage. Data will be destroyed once the story is complete. In the interview stage, anonymity was provided to the schools and the individual teachers involved in the study.

6.7 Summary

This chapter has outlined the features of the study's research design. It has also provided descriptions of the choice and use of research methods across the three stages of the study. Finally, ethical considerations were outlined. The next chapters report the results from the different stages of the research.

CHAPTER 7 RESULTS OF THE ANALYSES OF THE NATIONAL PUPIL DATABASE (NPD)

7.1 Introduction

This study looks at patterns of school attendance and their relationship with academic attainment at KS4 in state-funded schools in England for the academic year 2013/14. This chapter presents the results of the analysis of a KS4 cohort of 554,145 pupils from the National Pupil Database (NPD). A detailed explanation of NPD data and the reasons for its use can be found in Chapter 6. To recap, the relevant research questions that the NPD analysis was used to answer were:

1. *Which pupils in England are recorded as absent, persistently absent, and/or excluded from school at KS4?*

2. *To what extent do background characteristics, prior attainment, and school-type predict authorised absences, unauthorised absences, and/or exclusions from school?*

3. *To what extent is absence, and/or exclusion from school linked to pupils' academic attainment at KS4, once background characteristics and prior attainment are accounted for?*

This chapter comprises eight sections. The first section describes pupils who lack some of the background characteristics, such as Free School Meal (FSM) status, Special Educational Needs (SEN), and English as an Additional Language (EAL) data, using the available pupil and school-level data. The second section presents the patterns of school attendance and exclusions of KS4 pupils with reference to their characteristics (gender, age, SEN, FSM status, EAL). The third section presents the associations between type of school attended, school attendance, and exclusions. The fourth section presents the results of the multiple linear regression assumptions (normality of residuals (errors), linearity, multicollinearity and singularity, and homoscedasticity). The fifth section presents regression models run to predict school attendance (in terms of authorised and unauthorised absences) at KS4. The sixth section presents the results of the regression models that were run to predict fixed school exclusions at KS4. The seventh section looks at the association between school attendance and academic attainment. The final section presents the regression models to predict academic attainment at KS4.

7.2 Does missing data matter?

This section presents the results from a simple descriptive analysis of the dataset to shed light on who was missing from the dataset. The number of cohorts selected for analysis here was 554,145 KS4 pupils. The dataset is comprised of school-level data (school types, school attendance, exclusion, and academic attainment data). This dataset included data for the academic years 2008/09 (KS2), 2011/12 (KS3) for the same cohort (KS4). A key point to note here is that exclusion data were omitted from this analysis due to the fact that this data was only available for excluded pupils on either fixed or permanent exclusion periods. Pupil-level data includes individual background characteristics of the pupils (FSM eligibility, ethnicity, EAL, and SEN).

7.2.1 School attendance

School attendance data includes school absence data for the end of each included key stage. Table 7-1 shows the number and percentages of pupils without school attendance data by Key Stage.

Table 7-1: Pupils missing school attendance data for all included key stages (N=554,145)

2009 (KS2)	2012 (KS3)	2014 (KS4)
28,903 (5.2 %)	10,114 (1.8 %)	7,895 (1.4 %)

Table 7-1 shows that most missing data was in KS2 (5.2%). The main cohort of the study is KS4 pupils in the academic years 2013/14. Missing some information of these pupils in the previous years was expected. As shown from the above results that missing data increased backwards during key stages. The information for some of the new arrivals, immigrants, Gypsy, Roma, or traveller pupils is inconsistent.

Some cases may have dual registration, meaning that children are registered in more than one school. Therefore, some school data lack adequate information on some of their registered pupils. In other cases, Gypsy, Roma or Traveller families could find their child was removed from the school register while they were away. Although the law states that the base school has no right to remove children from registration even if they are also registered in another school (elsewhere), nothing prevents schools from doing that in practice (Department for Children Schools and Families, 2008).

7.2.2 Academic attainment

The academic attainment data included in this study covers the academic achievements for KS4 pupils in 2014 and their attainments at the prior key stages (KS1, KS2, KS3, and KS4). However, some of these pupils lacked their prior academic attainment records for KS1 and KS2.

Table 7-2: Pupils missing data from academic attainment for KS4 linked to KS1, KS2, and KS3 (N=554,145)

KS1 (%)	KS2 (%)	KS3 (%)	KS4 (%)
46,867 (8.5)	27,062 (4.9)	No missing (0.0)	No missing (0.0)

As shown in Table 7-2, the missing academic attainment data was mostly in KS1 (9%). Pupils that have no academic attainment data at KS1 and KS2 might be those who were not enrolled on administrative sources such as school census, PRU census or the Resource Management (RM) Achievement Database. Those pupils might not have been in education at the time of recording the data or were educated in different settings not covered by the NPD, such as independent schools, or in another country.

7.2.3 Individual background characteristics

Background characteristics data includes information related to pupils' contexts and personal details as recorded in the official school records and subsequently give to DfE to be included in the NPD. The dataset of this study includes some background characteristics of the pupils (gender, FSM status, ethnicity, EAL, and SEN).

Table 7-3: Pupils missing data for individual background characteristics (N=554,145)

Gender (%)	Age (%)	FSM (%)	EAL (%)	Ethnicity (%)	SEN (%)
None missing	None missing	5,825 (1.1)	4,031(0.7)	None missing	4,031(0.7)

Table 7-3 shows that 1% (n = 5,825 pupils) of the cohort were without FSM data. Nearly the same percentage of pupils lacked individual information covering their characteristics. This information is

considered by researchers as important for identifying disadvantaged pupils. The next section presents the results of an analysis to answer the question of who these pupils are.

7.2.4 Characteristics of pupils who lacked FSM data

7.2.4.1 Pupil-level data

The results show that 69% of pupils missing FSM data are also without certain other information as well. These pupils were not classified as having a SEN or not, and if their first language is English or not. This information is essential to identify pupils' background characteristics for this study.

Table 7-4: Characteristics of KS4 pupils who lack FSM data (N=5,825 pupils)

Gender		**Ethnicity**		**SEN**		**EAL**		
Boys	Girls	White British	Non-White	Non-SEN	Missing	English	Non-English	Missing
49.5%	50.5%	23.4 %	76.6% %	30.8%	69.2%	24.3 %	6.5 %	69.2%

From the results in Table 7-4, not much information is known about pupils lacking the relevant data here. What is known is that most of these pupils (77%) were from minority ethnicities. Some 31% of them did not have a SEN and 24% spoke English as their first language. Therefore, the data does not help much to determine the characteristics of the pupils missing information except that majority of this group are in the categories of minor ethnic groups and SEN.

7.2.4.2 School-level data

School-level data includes information about types of school attended, if a pupil was new in school (i.e. had arrived within the previous two years), school attendance (absence sessions), and academic attainment.

Table 7-5: Summary of school-level data for pupils lacking FSM data (N=5,825 pupils)

Attended comprehensive		**School mobile**		**Persistent absentee**		**High academic achiever**	
Yes	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
98 %	2 %	91 %	9 %	74 %	26 %	1 %	99 %

Table 7-5 shows that most of these pupils were persistent absentees (74%), low academic achievers (99%) (not achieving 5 GCSEs A*-C, including English and Maths), and high in school mobility. The school-level analysis presents a greater amount of data for the group of pupils without individual data, especially FSM. This result indicates that pupils who lacked data for FSM are disadvantaged children in schools in terms of school attendance and academic attainment.

7.2.5 Summary

The results of the descriptive analysis showed that only 1% of school attendance data for KS4 pupils were missing. The academic data for KS4 pupils were complete. Approximately 1% was missing from the individual characteristics of the pupils. The lack of data on the background characteristics of 5,825 pupils, especially FSM status, could mask patterns of school attendance and attainment. In this study, missing data were hence treated carefully. Missing data for each background characteristic (FSM, SEN, and EAL) was coded as a third category in the advanced analysis (see Chapter 6). Therefore, the findings of this analysis contain a number of implications for policy and practice revolving around the point that missing data matters: policymakers should consider missing data and not simply ignore it. Schools should be concerned about their pupils' background data because every child matters in assessing school attendance and attainment.

7.3 Characteristics of school absence and excluded pupils in England

7.3.1 Introduction

This section presents the results from an analysis of the NPD to identify the characteristics of absent and excluded pupils in England. The KS4 cohort included 554,145 pupils attending state-funded schools in England for the academic year 2013/14. Results from two sets of analysis (simple descriptive analysis and cross-tabulations) are presented to determine patterns of school attendance and exclusions at KS4. Then, results of Cohen's d effect size calculations are presented to assess the association between the background characteristics of pupils, school attendance and exclusions at KS4. A detailed explanation about the NPD data and reasons for its use are found in Chapter 6.

This chapter comprises two sections. The first section details patterns of school absence and excluded pupils. The first part of this section describes school attendance and exclusions by Key Stages (2, 3, and 4) according to percentages of school absences (authorised and unauthorised), followed by percentages of exclusions (fixed and permanent) per Key Stage. The second part of section one

presents the results from comparing KS4 absences and exclusions in terms of their background characteristics: gender, ethnicity, FSM status, EAL, and SEN.

The second section covers the association between the background characteristics of pupils, school attendance and exclusions at KS4. This section presents the results of the 'effect' sizes calculated to identify the magnitude of the difference between different groups of pupils in terms of school attendance and exclusions. This second section is divided into five parts, each presenting the results of 'effect' sizes for one of the covered background characteristics.

7.3.2 Patterns of school attendance and exclusions

7.3.2.1 School attendance by Key Stage

It is important to note that the available data for absences and school exclusions covered years 6, 9, and 11, which represent the end of Key Stages 2, 3, and 4. As shown in Table 7-6, the percentage of pupils whose absences were recorded as unauthorised absences increased over the Key Stages, with the highest figure found in year 11 (40%). As appears from this result, the problem of absences was matter of concern for pupils at secondary school age.

Table 7-6: Percentages of absences by Key Stage: KS2 (n=525,242 pupils), KS3 (n=544,031pupils), KS4 (n=546,250 pupils)

Key Stage	No absence	At least one authorised absence session	At least one unauthorised absence session
KS2 (year 6)	7.0%	92.0%	22.5%
KS3 (year 9)	7.4%	91.1%	31.5%
KS4 (year 11)	8.1%	89.5%	40.0%

This result suggests that the age group/Key Stage that a pupil was attending could be indicators of increased unauthorised absences. In other words, being a teenager and attending secondary school might raise the probability of missing more school sessions without school approval.

7.3.2.2 School exclusions by Key Stage

A key point to note is that unlike school absences, exclusion data was for excluded pupils only; i.e. pupils who were never excluded have no exclusion data (for more details about school exclusion data and how it was treated, see Chapter 6). Therefore, the results of both numbers and percentages for excluded pupils are presented to avoid any possible misleading information that may occur if only percentages were presented. As can be seen in Table 7-7, the highest number of excluded pupils (25, 465) was found in Year 9, when pupils are aged 13.

Table 7-7: Numbers and percentages of excluded pupils by Key Stage (N= 554,145 KS4 pupils)

Key Stage	At least one fixed exclusion (%)	At least one permanent exclusion (%)
KS2 (year 6)	4, 392 (0.8%)	64 (0.0%)
KS3 (year 9)	25,465 (4.6%)	277 (0.0%)
KS4 (year 11)	22,609 (4.1%)	215 (0.0%)

The results show that age group could be an indicator of school exclusions, either fixed or permanent. This result implies that secondary-aged pupils were more likely to be asked to leave their schools temporary and/or permanently. It seems that school transition plays a role in school exclusions. This finding could indicate that there were interactions between inner factors related to physical and psychological challenges at the beginning of teenage years, and external factors related to a new school which throw up challenges such as unfamiliar teachers, peers, policies, and curricula.

Therefore, based on the results of the previous analysis, it was found that the problems of school attendance and exclusions were predominantly within secondary school aged pupils in England. Who are these pupils? Is addressed next.

7.3.3 School attendance and exclusions by pupils' background characteristics

7.3.3.1 Gender

This section presents the results of simple descriptive analyses to identify pupils who were recorded as absences (authorised and unauthorised) and excluded (fixed and permanent). The data used as indicators for pupils' background characteristics cover gender, ethnicity, FSM status, EAL, and SEN.

As shown in Table 7-8, girls (45.1%) had slightly more authorised absences than boys (44.5%). The percentage of persistent absentees from girls (5.0%) was also slightly higher than for boys (4.3%). In contrast, the percentage of boys with fixed exclusions (2.8%) was higher than that of excluded girls (1.3%), and the same trend was found for permanent exclusions, with more boys (0.03%) than girls (0.01%).

Table 7-8: Percentages of absentees and excluded pupils by gender (N=554,145 pupils)

Gender	**Boys %**	**Girls %**
Authorised absences	44.5	45.1
Uunauthorised absences	20.1	19.9
Persistent absences	4.3	5.0
Fixed exclusions	2.8	1.3
Permanent exclusions	0.03	0.01
Total	50.6	49.4

The results from this simple analysis show a slight gender gap in terms of school attendance and exclusions at KS4. This could be related with different physiological and psychological challenges that each gender faces at this age. For example, girls experience symptoms of menstruation monthly, which may lead to missing school. Teenagers, especially boys, might display behaviour which may not be accepted by school culture and could lead to school exclusions.

7.3.3.2 Ethnicity

As noted several times in this study, the NPD covers state-funded schools in England. Consequently, a key point that must be noted here is that most of the included pupils are white British. Therefore, the variability between the dominant ethnicity (white British) and other ethnicities in terms of the total number of these groups of pupils should be considered before drawing any conclusions.

Minority ethnicities in the NPD are Asian, Black, Chinese, and mixed ethnicity. The results in Table 7-9 show that 17.5 % of pupils from minority ethnicities of a total of 21% were recorded as had at least one authorised absence. The results also show that the percentage of permanently excluded pupils from minority ethnicities notably had a higher percentage (0.03%) than that of white British pupils (0.01%).

Table 7-9: Percentages of absentees and excluded pupils by ethnicity (N=554,145 pupils)

Ethnicity	White British	Minor ethnicities
Authorised absences	72.0	17.5
Unauthorised absences	30.9	9.1
Persistent absences	7.3	2.0
Fixed exclusions	3.3	0.8
Permanent exclusions	0.01	0.03
Total	79.3	20.7

This finding supports the disproportionate representation of pupils from minority ethnicities in the school permanent exclusion figures that have been highlighted in some studies (e.g. Parkes, 2012) and has been a concern discussed on media forums and public debates on education (Coughlan, 2018).

7.3.3.3 Free School Meals (FSM)

The association between poverty, school attendance and exclusions has been widely studied, and FSM is also used as an indicator for the background characteristics in this research. A greater percentage of the 14% pupils in receipt of FSM was absent and excluded from schools than for children not in receipt of FSM. As shown in Table 7-10, most persistent absentees (6%) were pupils in receipt of FSM. For school exclusions, the percentage of pupils not in receipt of FSM was greater than for those in receipt of FSM. However, these figures do not explain adequately the situation for these two groups as mentioned previously in this section.

Table 7-10: Percentage of absentees and excluded pupils by FSM (N=548,320 pupils)

Eligibility for FSM	FSM %	Not FSM %
Authorised absences	12.7	76.9
Unauthorised absences	8.5	31.4
Persistent absences	6.1	2.5
Fixed exclusions	1.1	2.9
Permanent exclusions	0.01	0.03
Total	13.8	85.1

(1.1% of FSM status data was missing)

7.3.3.4 English as an Additional Language (EAL)

Another background variable is language. The largest group of pupils in this dataset report English as their first language. Therefore, the percentages of pupils with absences and exclusions who speak English as a first language were higher than for pupils for whom English is an additional language (see Table 7-11).

Table 7-11: Percentages of absentees and excluded pupils by language group (N=550,114 pupils)

Language group	English	Not English
Authorised absences	77.8	11.8
Unauthorised absences	33.5	6.5
Persistent absences	7.7	0.9
Fixed exclusions	3.6	0.5
Permanent exclusions	0.03	0.005
Total	85.7	13.6

(0.7% of EAL data was missing)

However, when looking closely in the results in Table 7-11, 11.8 % of not English (EAL) pupils from a total of 13.6 % were recorded as had at least one authorised absence. This percentage is quite high. This could be linked to the finding about ethnicity.

7.3.3.5 Special Educational Needs (SEN)

The final background variable was SEN, which was found to be a strong indicator of poor school attendance and exclusions. Results of simple descriptive analysis show that majority of pupils with a SEN (16.3%) were recorded as absentees and (2.4%) of these pupils were under a fixed exclusion order as shown in Table 7-12 , the percentages of SEN pupils' fixed exclusions (2.4%) was higher than that of non-SEN pupils (1.7%).

Table 7-12: Percentages of absences and exclusions by SEN (N= 550,114 pupils)

Special educational need	SEN	Not SEN
Authorised absences	16.3	73.2
Unauthorised absences	9.5	30.5
Persistent absences	3.1	5.5
Fixed exclusions	2.4	1.7
Permanent exclusions	0.02	0.02
Total	17.9	81.4

(0.7% of SEN data was missing)

It is notable that the percentage of permanently excluded pupils from the SEN group was equal to that of non-SEN with regard to the difference between the two groups in total percentage.

7.3.4 Associations between background characteristics, school attendance and exclusions

This section presents the results of 'effect' size calculations which show the differences that different groups of pupils may make in school attendance and exclusions in KS4. The background characteristics included in this analysis were gender, ethnicity, FSM, EAL, and SEN. This stage of the analyses is more complex than descriptive statistics and demonstrate the 'effects' of indicators on the outcomes of interest.

7.3.4.1 Permanent exclusions from school

It is important to mention that calculating the 'effect' sizes for permanent exclusions was not possible due to possible measurement errors. The degree of freedom of permanent exclusions variable was limited. It is just a binary outcome of indicated or not indicted excluded (see methods chapter page 73). There is no variation in this record. Permanent exclusions data are ranged between 0 and 1 exclusion only. Therefore, the analysis was limited by presenting the different means of permanent exclusions within the different groups of pupils based on their background characteristics. Results in Table 7-13 shown a clear pattern of permanently excluded pupils at KS4.

Table 7-13: Means of permanent exclusions from school by background characteristics (N=554,145 pupils)

Background characteristics	**Boys**	**Girls**	**White British**	**Non-white**	**FSM**	**Non-FSM**	**English**	**Non-English**	**SEN**	**Non-SEN**
Permanent exclusions	0.0006	0.0002	0.0004	0.0005	0.0006	0.0003	0.0004	0.0003	0.001	0.0003

The pattern of permanent exclusion was as follows a boy came from minority ethnicity, eligible for FSM, with a SEN is likely to be excluded from school permanently compared to other demographics of children. A meaningful interpretation of this pattern could be that the most disadvantaged children were the most excluded pupils from schools.

7.3.4.2 Gender

When examining the 'effect' sizes, a key point to note is that 1.4% of the total number of pupils (554,145) were excluded from this analysis because no absence data were available for them, and 0.7% of background characteristics data (SEN and EAL) was also missing. Also, 1% of data for FSM was missing (see discussion of missing data on page 88).

The results show a gap in authorised absences between girls and boys, girls have more authorised absences than boys. The difference between the genders (0.14) is shown in Table 7-14. In terms of fixed school exclusions, boys were higher than girls by 0.12. These effect size differences in school

attendance and exclusions are meaningful and should be considered in assessing the issues of school attendance and exclusions.

Table 7-14: Comparison of means of girls and boys in terms of attendance (authorised and unauthorised) and fixed exclusions at KS4 (N=546,250 pupils)

Gender	Girls	Boys	Total	'Effect' size
Authorised absence sessions mean	**14.63**	**12.24**	13.42	***0.14***
Standard deviation	18.85	16.26	**17.63**	
Unauthorised absence sessions mean	**5.50**	**5.27**	5.38	***0.01***
Standard deviation	18.58	18.56	**18.57**	
Fixed exclusions mean	**0.04**	**0.09**	0.07	***-0.12***
Standard deviation	0.32	0.48	**0.41**	

Therefore, the results of the effect sizes calculation indicate that there is a difference between boys and girls in authorised absences and fixed exclusions. These results suggest that gender is an indicator of school absence and exclusions. Being a girl could mean more approved absences and being a boy could raise the probability of being excluded from school.

7.3.4.3 Ethnicity

The results of the effect size calculation show that there was a difference between white British pupils and non-white pupils, at 0.19 for authorised absences. No remarkable differences were noticed for unauthorised absences and fixed exclusions.

Table 7-15: Comparison of means of white British pupils and non-white pupils in terms of attendance (authorised and unauthorised) and fixed exclusions at KS4 (N=546,250 pupils)

Ethnic Group	White British	Non-White	Total	'Effect' size
Authorised absence sessions mean	**14.09**	**10.78**	13.42	***0.19***
Standard deviation	18.37	14.00	**17.63**	
Unauthorised absence sessions mean	**5.54**	**4.75**	5.38	***0.04***
Standard deviation	19.32	15.21	**18.57**	
Fixed exclusions mean	**0.07**	**0.06**	0.07	***0.02***
Standard deviation	0.43	0.32	**0.41**	

These results could mean that ethnicity is not a strong indicator for assessing patterns of unauthorised absences and fixed school exclusions, as shown in Table 7-15. However, it is important to mention that ethnic groups are collapsed into two major categories of white and not- white.

7.3.4.4 Free School Meals (FSM)

It can be seen in Table 7-16 that the difference that FSM status explains between pupils is large, especially for unauthorised absences (0.50), decreasing to 0.22 for authorised absences and 0.22 for fixed school exclusions.

Table 7-16: Comparison of means of FSM and non-FSM pupils in terms of absence sessions (authorised and unauthorised) and fixed exclusions at KS4 (N= 546,250 pupils)

Eligibility for free school meal	FSM	Non-FSM	Total	'Effect' size
Authorised absence sessions mean	**16.73**	**12.89**	13.43	***0.22***
Standard deviation	21.38	16.87	**17.63**	
Unauthorised absence sessions mean	**13.28**	**4.03**	5.32	***0.50***
Standard deviation	31.26	15.03	**18.47**	
Fixed exclusions mean	**0.14**	**0.05**	0.07	***0.22***
Standard deviation	0.62	0.37	**0.41**	

The results show that FSM status is a sound indicator for assessing patterns of school attendance and exclusions at KS4. Therefore, pupils from low socio-economic status families tend to be recorded with more absences and exclusions than their peers from other social classes.

7.3.4.5 English as an additional language (EAL)

As shown in Table 7-17, EAL shows a difference (0.22) between native English and non-native English speakers in term of authorised absences. This difference in authorised absence is meaningful. But no remarkable difference was noticed for unauthorised and fixed school exclusions.

Table 7-17: Comparison of means of English and non-English pupils in terms of absence sessions (authorised and unauthorised) and fixed exclusions at KS4 (N=546,250 pupils)

EAL	Native English	Non-native English	Total	'Effect' size
Authorised absence sessions mean	**13.95**	**10.1**	13.43	***0.22***
Standard deviation	18.24	12.57	**17.63**	
Unauthorised absence sessions mean	**5. 44**	**5. 00**	5.38	***0.02***
Standard deviation	19.13	14.56	**18.57**	
Fixed exclusions mean	**0.07**	**0.05**	0.07	***0.05***
Standard deviation	0.43	0.3	**0.41**	

The results show that native-level of English is not a strong indicator for assessing patterns of school attendance and exclusions at KS4.

7.3.4.6 Special Educational Needs (SEN)

From the results in Table 7-18, SEN could explain the difference in school attendance records, especially of unauthorised absences (0.35). SEN pupils were more likely to miss school sessions. In addition, SEN was also an indicator of school exclusions, explaining the 0.27 difference in fixed school exclusions.

Table 7-18: Comparison of means of SEN and non-SEN pupils in terms of absence sessions (authorised and unauthorised) and fixed exclusions at KS4 (N=546,250 pupils)

Special educational needs	SEN	Non- SEN	Total	'Effect' size
Authorised absence sessions mean	**17.61**	**12.52**	13.43	***0.29***
Standard deviation	24.18	15.70	**17.63**	
Unauthorised absence sessions mean	**10.76**	**4.21**	5.38	***0.35***
Standard deviation	28.76	15.24	**18.57**	
Fixed exclusions mean	**0.16**	**0.05**	0.07	***0.27***
Standard deviation	0.66	0.33	**0.41**	

Although the association between SEN and unauthorised absences seems stronger than authorised and fixed exclusions, the differences that SEN explained in school attendance and exclusions were quite large and should be considered. SEN looks to be a sound indicator for assessing patterns of school attendance and exclusions at KS4.

7.3.5 Summary

The results of simple descriptive analysis, cross-tabs and effect size calculations show that patterns of school attendance can be summarised as follows. A secondary school-aged girl pupil who is of White British ethnicity is eligible for FSM, speaks English as her first language and has a SEN. Regarding school permanent exclusion patterns, a secondary school-aged boy who is from a minority ethnicity is in receipt of FSM, and has a SEN. The same pattern was found for fixed exclusions. The only difference between permanent and fixed exclusions' patterns was ethnicity. Pupils of minority ethnicities had more school permanent exclusions at KS4 compared to other pupils of white British ethnicity. These results, collectively, show that pupils from disadvantaged backgrounds were more recorded to be absent or excluded from mainstream schools at KS4 in England.

The results of effect size calculations show that there was an association between the background characteristics of pupils and school attendance and exclusions at KS4, particularly for the FSM and SEN variables. The difference between groups of pupils in terms of SEN and FSM was more apparent in unauthorised absences, followed by authorised absences and fixed exclusions, although effect size

calculations were subsequently conducted to explore the different associations between the background characteristics and school attendance and fixed exclusions. Effect size calculations did not control for other variables. The results could help to determine if the difference is important or is due to other variables. Therefore, the results should be interpreted with caution. There is a need for a further step in the analysis which explores the association between background characteristics with school attendance while other variables are controlled in order to obtain more rigorous results. Therefore, regression model analysis will be employed in subsequent chapters.

7.4 Associations between type of school, school attendance and exclusions

7.4.1 Introduction

This section presents the results from the cross-tabs analyses that investigated the relationship between the type of school, school attendance, and exclusions at KS4. A total of 15,360 KS2 schools, 3,351 KS3 schools, and 3,074 KS4 schools were included in this analysis, both primary and secondary mainstream schools in England.

This analysis was conducted to answer the second research question, namely the extent to which background characteristics, prior attainment, and school-type predict overall absences, unauthorised absence, and/or exclusion from school. In assessing the link between the type of school, school attendance, and exclusions, the aim was to explore the role of the school.

This section comprises two parts. The first presents the results of cross-tabs analysis between type of school, school absences, and exclusions at the primary level (KS2). The second section presents the results of cross-tabs analysis between type of school, school absences, and exclusions at the secondary level (KS3 and KS4).

7.4.2 Primary schools

Four types of primary school were included in this analysis (community schools, academies, foundations, and faith schools). The total number was 15,360 primary schools. The results in Table 7-19 show that the highest percentages of unauthorised absentees (31%) and excluded pupils (2%) were in academies.

Table 7-19: Percentages of KS2 absentees (authorised and unauthorised) and excluded pupils (fixed and permanent) by school type (N=523,534 pupils)

KS2 Type of school	At least one authorised absence session	At least one unauthorised absence session	At least one fixed exclusion	At least one permanent exclusion
Community schools	92.1	24.6	0.9	0.005
Academy schools	85.9	30.9	2.0	0.145
Foundations	92.0	20.0	0.9	0.011
Faith schools	92.0	18.1	0.6	0.004
Total percentage for the whole cohort	**92.1**	**22.5**	**0.8**	**0.005**

Academies are independent schools that have more flexibility in their admission system and regulation of exclusion practices. The governing bodies of majority academy schools are not fully accountable to their respective local education authorities. Therefore, they are flexible in some school practices such as intake of students, strict student exclusion criterion or adherence to zero-tolerance policy to bad behaviour. One possible explanation of this result could be due to the fact that the majority of these academies were low-performing schools in disadvantaged areas. These schools were converted into academies to make more academic progress. It is expected that the intakes of these low-performing schools were from a disadvantaged background. The change in the status of these schools (academies) may enable these schools to make different changes in their schools, but not in their compositions. Thus, the percentage of unauthorised absentees was higher than in other types of schools. Possibly, these academies excluded more low-attainers to save their academic attainment rate.

This result shows that school type in primary education is an indicator for assessing school attendance and exclusions.

7.4.3 Secondary schools

The included secondary schools comprise two key stages (KS3 and KS4). For KS3, four types of schools were included in the analysis: community schools, academies, foundations, and faith schools. The total number of schools was 3,351. Table 7-20 shows the percentages of absentees and excluded

pupils per type of school at KS3. The results show that the percentages of absent (37%) and excluded pupils (5%) were slightly higher in foundations than in other types of schools.

Table 7-20: Percentages of KS3 absentees (authorised and unauthorised) and excluded pupils (fixed and permanent) by school type (N=543,095 pupils)

KS3 Type of school	At least one authorised absence session	At least one unauthorised absence session	At least one fixed exclusion	At least one permanent exclusion
Community schools	91.4	33.50	4.9	0.05
Academy schools	91.2	29.40	4.5	0.04
Foundations	91.1	37.00	5.1	0.04
Faith schools	90.7	29.90	4.5	0.04
Total percentage for the whole cohort	**91**	**31**	**4.7**	**0.05**

However, foundations showed no clear differences in absences and exclusions. It was much clearer in academies as shown in Table 7-20.

For KS4, two different categorisations of schools were investigated. The first category included four types of school (community schools, academies, foundations, and faith schools). The second category included two types of schools (selective and non-selective schools). KS4 was different from other key stages because the latter two types of school were only found for this Key Stage. The reason for using both sets of school types was due to differences between them in terms of selective or non-selective admission policies.

Table 7-21: Percentages of KS4 absentees (authorised and unauthorised) and excluded pupils (fixed and permanent) by school type (N=554,145 pupils)

KS4 Type of school	At least one authorised absence session	At least one unauthorised absence session	At least one fixed exclusion	At least one permanent exclusion
Community schools	88.8	41.90	4.1	0.04
Academy schools	90.1	38.90	4.1	0.04
Foundations	88.6	44.60	4.4	0.05
Faith schools	89.0	37.20	3.7	0.03
Total percentage for the whole cohort	**89.5**	**40.0**	**4.1**	**0.04**

Results in Table 7-21 show that percentages of pupils with unauthorised absences (45%) and excluded pupils for fixed (4.4%) and permanent exclusions (0.05%) in foundations were the higher compared to the other types of schools. However, the differences were not clearly large to come up with a conclusion.

The number of schools included was 3,074 schools. As expected, non-selective (comprehensive) schools were higher than selective schools in terms of the percentage of pupils with unauthorised absences (41%) ,fixed (4.2%), and permanent exclusions (0.04%) (see Table 7-22).

Table 7-22: Percentages of KS4 absentees (authorised and unauthorised) and excluded pupils (fixed and permanent) by school type (N=554,145 pupils)

KS4 Type of school	At least one authorised absence session	At least one unauthorised absence session	At least one fixed exclusion	At least one permanent exclusion
Selective school	93	30	2.9	0.03
Non-selective school	89	41	4.2	0.04
Total percentage for the whole cohort	**90**	**40**	**4.1**	**0.04**

However, it is interesting to note that the percentage of pupils with at least an authorised absence (93%) was higher in selective schools than in comprehensive ones (89%). As known authorised absences are given to pupils who are absent with a reason deemed acceptable by the school, this

figure may indicate that selective schools are more concern about how their absence figures are recorded, and that might be why these selective schools authorised absences for their pupils. However, the data here does not explore the reasons which may explain the situation more clearly.

One possible explanation for the finding that non-selective schools have a higher percentage of unauthorised absences could be related to social class. Pupils attending selective schools come largely from the middle to upper-class families, who, on average, tend to value education and school attendance as essential factors for their children's academic future (Andrews et al., 2016; Burgess et al., 2017).

7.4.4 Summary

These results show that associations between type of school, school attendance and exclusions are not clear. The intakes of these schools seem to be important for assessing school attendance and exclusions at these schools; schools that have a high proportion of disadvantaged pupils are more likely to have low school attendance and high exclusion rates.

However, there is still a need for further analysis which would make it possible to predict school attendance and exclusions while controlling for different variables. Thus, the results of testing multiple linear regression assumptions will be presented next, following which the regression model analysis results are presented.

7.5 Results of testing the assumptions underpinning multiple linear regression

The purpose of conducting multiple linear regression was to check the extent to which pupils' background characteristics from birth (age in months, gender, SEN, ethnicity, FSM, and EAL), primary school indicators (KS2 Maths and English point scores, authorised and unauthorised absences), and secondary school indicators (KS3 Maths and English point scores, authorised and unauthorised absences, school mobility, and type of school attended) can predict school attendance, exclusions, and academic attainment of pupils aged 16. Before conducting the regression analysis, the data were checked to test some of the basic assumptions that are required in multiple linear regression analysis. The results that show the dataset of this study was fit to run multiple linear regression are presented below.

7.5.1 Assumption 1: Normality of residuals (errors)

Normal distribution of variables is one of the critical assumptions of linear regression (Osborne & Waters, 2002). However, it has been stated that the assumption of normality in linear regression is actually concerned with the normality of the regression residuals (Williams et al., 2013). The aim of testing the normality of residuals is to check whether regression residuals are normally distributed for any group of values on the predictor variables (Williams et al., 2013).

Figure 7-1 presents the histogram obtained from the regression analysis. As shown, it can be presumed that the regression residuals are approximately normally distributed in the regression model.

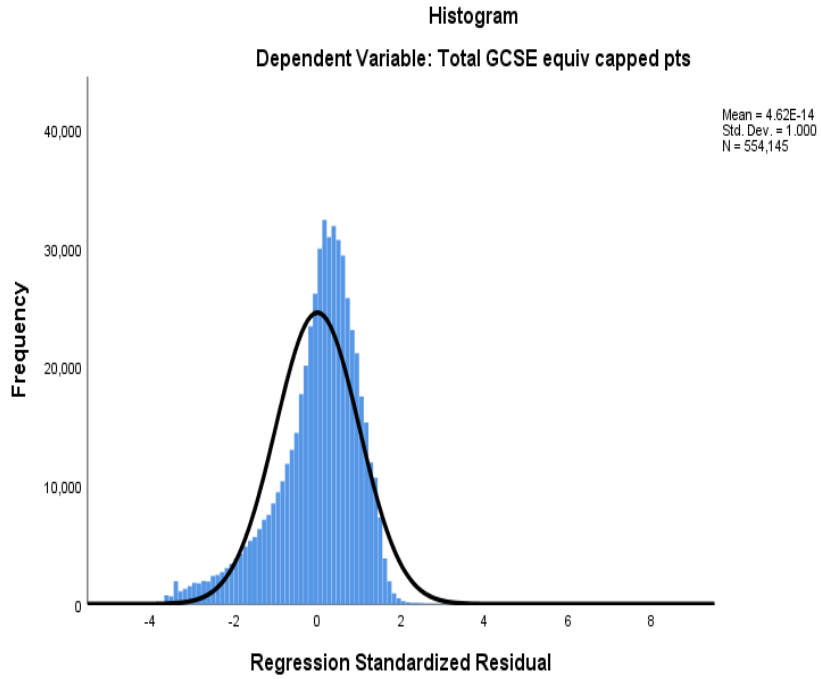

Figure 7-1: Histogram indicating the normality of regression residuals

7.5.2 Assumption 2: Linearity

In multiple linear regression, a linear pattern in the regression model is assumed (Chatterjee & Hadi, 2015). This means that the independent variables from the regression model are assumed to be a linear function of the regression parameters (Williams et al., 2013). This shows that the regression residuals should be related to the predicted responses in a straight-line. P-P plots of regression

analysis were used to test this assumption. It can be assumed from the obtained straight-line pattern of the P-P plots (see Figure 7-2) that there is an approximately linear relationship between the outcome variable and regression coefficients.

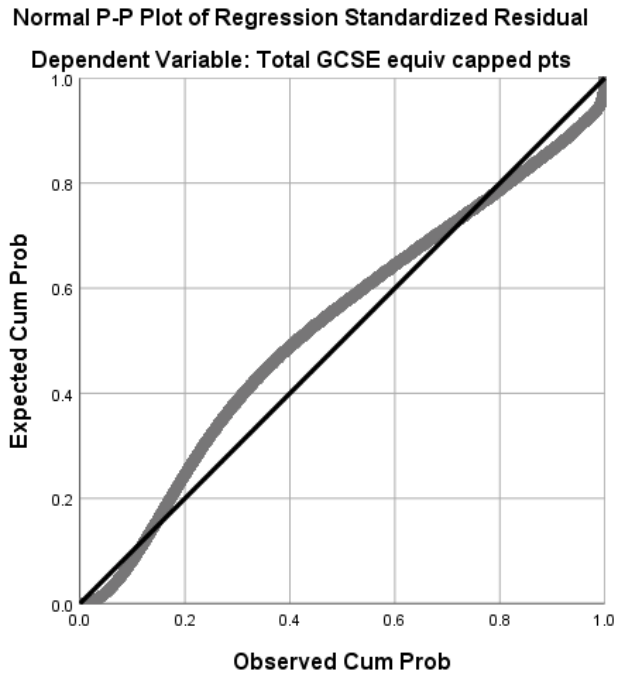

Figure 7-2: P-P plot obtained from linear regression to predict total GCSE or equivalent capped point scores

7.5.3 Assumption 3: Multicollinearity and singularity

Multicollinearity means that two or more predictor variables in a regression model are highly correlated (Alin, 2010). Singularity occurs when there is a perfect correlation between the independent variables (Dattalo, 2013). There should be no perfect linear correlation between the independent variables (Gorard, 2003). Bivariate correlation analysis was used to test the correlations between the explanatory and dependent variables that will be entered in the model.

Table 7-23 shows that there is no perfect correlation between variables (r = 1). There was no explanatory variable perfectly in a linear combination with the other, meaning that the regression model is free from both multicollinearity and singularity.

Table 7-23: Results of the correlation test to check multicollinearity

	Age in months	KS3 English point scores	KS3 Maths point scores	KS2 English point scores	KS2 maths point scores	KS2 Authorised Absences	KS2 Unauthorised Absences	KS3 Authorised Absences	KS3 Unauthorised Absences	KS4 Authorised Absences	KS4 Unauthorised Absences	KS4 Capped point scores	KS4 Total fixed exclusions
Age in months	1												
KS3 English point scores	0.011	1											
KS3 Maths point scores	0.016	0.810	1										
KS2 English point scores	0.081	0.404	0.405	1									
KS2 Maths point scores	0.074	0.337	0.492	0.640	1								
KS2 Authorised absences	0.011	-0.109	-0.131	-0.152	-0.171	1							
KS2 Unauthorised absences	0.006	-0.115	-0.122	-0.150	-0.150	0.127	1						
KS3 Authorised absences	0.028	-0.122	-0.147	-0.107	-0.133	0.357	0.101	1					
KS3 Unauthorised absences	0.020	-0.166	-0.172	-0.125	-0.127	0.186	0.270	0.146	1				
KS4 Authorised absences	0.022	-0.065	-0.087	-0.054	-0.083	0.227	0.060	0.395	0.119	1			
KS4 Unauthorised absences	0.016	-0.152	-0.164	-0.128	-0.131	0.165	0.207	0.203	0.444	0.153	1		
KS4 Capped point scores	0.023	0.533	0.581	0.553	0.545	-0.195	-0.180	-0.269	-0.297	-0.239	-0.378	1	
KS4 Total fixed exclusions	0.003	-0.086	-0.087	-0.085	-0.074	0.039	0.044	0.078	0.083	0.181	0.150	-0.206	1

7.5.4 Assumption 4: Homoscedasticity

Homoscedasticity refers to a continuous variance of residuals in regression analysis. This assumption aims to ensure that the variance of residuals is approximately the same at each point of the regression model (Vogt & Johnson, 2015). A visual examination of the standardised residual by the regression standard predict value plot was used to test this assumption (see Figure 7-3).

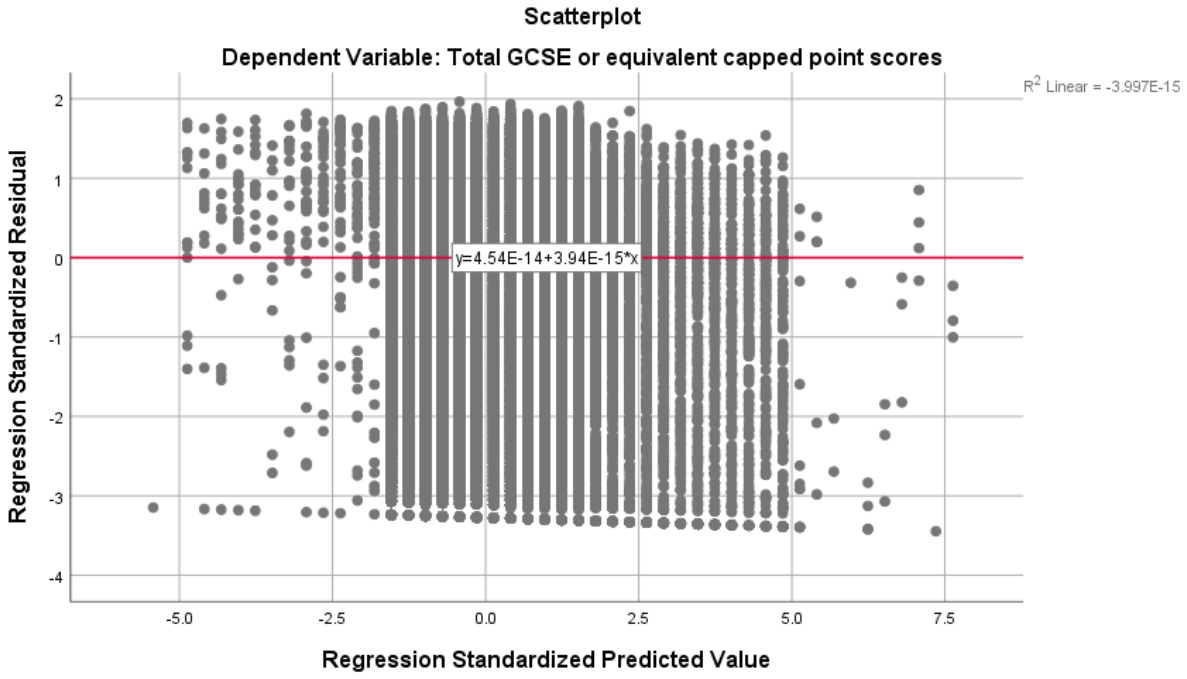

Figure 7-3: Scatter plot to examine the distribution of the residuals in a regression model

The results of the test assumptions show that the data was fit to carry out the multiple linear regression because there is no particular relationship found between the predicted values and residuals as shown in Figure 7-3.

7.6 Predicting school attendance at KS4

7.6.1 Introduction

This section presents the results from binary logistic regression and multiple linear regression models to show to what extent the available variables (characteristics of pupils from birth, primary school variables, secondary school variables, and absences at KS4) can predict school attendance at KS4. The regression models were conducted to predict school absences at KS4

(authorised and unauthorised). Two key points to mention here are that, first, the reason for introducing variables in sets or groups (blocks) in a particular sequence was to explore which of these stages of pupils' lives play the most important role in their KS4 school attendance records. Secondly, the retained variables are those which have contributed to the prediction power only. These two techniques were used for all regression models in this study.

7.6.2 Predicting authorised absences at KS4

First, the correctly predicted percentages for each model are presented to show the ability of each block to predict the variability in the authorised absences. Then, the regression coefficients of each variable entered in the models are presented to show the association between the variables of the models and authorised absences.

7.6.2.1 A binary logistic regression models to predict authorised absences at KS4

To create a binary logistic regression model for authorised absences, six regression models were conducted and the average from them was considered the model. Justifications of the methodology used can be found in Chapter 6. Therefore, the obtained models are the most rigorous that can be achieved from such dataset that has uneven groups.

The results are trustworthy and valid because they were examined several times with different samples that were selected randomly from the whole dataset. The results are not just one iteration of the model analysis. Table 7-24 presents a summary of the six binary logistic regressions with a comparable group of pupils in terms of numbers to stand for pupils that had at least one authorised absence session at KS4 to be compared with pupils that have no absence sessions at the same Key Stage.

As shown in Table 7-24, pupil characteristics from birth could explain 14% of the unexplained variation (or 7/49.8) in authorised absences. Primary school factors (KS2 Maths, and English point scores + KS2 authorised and unauthorised absences) added 9% to the prediction power of the model. When secondary school factors (KS3 Maths and English point scores, authorised and unauthorised absences, school mobility, and type of school attended) were entered the model, 12% was added to the prediction power. (For more classification of the percentages predicted per block for all six models, see Appendix 8 (Table 1)).

Table 7-24: Summary of six binary logistic regression models to predict authorised absences at KS4

No.	Block	Model 1 (N=113,385)	Model 2 (N=113,376)	Model 3 (N=113,394)	Model 4 (N=113,496)	Model 5 (N=113,438)	Model 6 (N=113,472)	Average Model
		Percent Correct	Percent Correct	Percent Correct	Percent Correct	Percent Correct	Percent Correct	Percent Correct
0	**Base**	50.2	50.2	50.2	50.2	50.2	50.2	**50.2**
1	**Pupils' characteristics from birth**	55.8	55.9	58.8	58.6	58.1	55.9	**57.2**
2	**Primary school factors**	61.3	61.0	62.1	62.6	62.2	60.5	**61.6**
3	**Secondary school factors**	67.6	67.9	67.5	68.4	68.1	67.4	**67.8**

(Dependent variable: Sum of authorised absence sessions at KS4 (Yes/No))

From the results in Table 7-24, the background characteristics of pupils seem to best predict authorised absences at KS4, followed by secondary school factors (academic attainment at KS3, school absences at KS3, school mobility, and school type attended). However, there are clearly further factors explaining the patterns of absences.

The averages of the odds ratios show that girls (odds ratio = 1.34), followed by White Britons (ethnicity) (odds ratio = 1.05) were more linked to authorised absences at KS4 than prior absences, as shown in Table 7-25. This result is notable. Once pupil background is controlled for, prior school attendance is still associated with school attendance at KS4, but perhaps not as strong as might be expected.

Table 7-25: Regression coefficients obtained from six binary logistic regression models to predict authorised absences at KS4

No.	Block	Variables in Block	Model 1 Exp (B)	Model 2 Exp (B)	Model 3 Exp (B)	Model 4 Exp (B)	Model 5 Exp (B)	Model 6 Exp (B)	Average Model Exp (B)
1	**Pupils' characteristics from birth**	Age in months	1.007	1.005	1.007	1.010	1.010	1.005	1.007
		Female (vs Male)	0.729	0.708	0.717	0.715	0.720	0.724	1.34
		SEN (non-SEN)	1.061	0.943	1.176	0.990	0.974	1.116	1.043
		White (vs non-White)	1.066	0.745	1.789	0.534	0.624	0.964	1.05
		FSM (vs non-FSM)	1.249	0.932	1.215	0.870	0.962	0.899	1.021
		English (vs non-English)	1.393	0.954	1.490	0.540	0.616	0.652	1.06
2	**Primary school factors**	KS2 Maths point scores	0.992	0.983	1.000	0.986	0.983	0.990	0.989
		KS2 English point scores	0.999	1.004	1.004	1.000	0.992	1.016	1.003
		KS2 authorised absence sessions	1.022	1.022	1.025	1.021	1.021	1.020	1.022
		KS2 unauthorised absence sessions	1.006	0.995	1.015	0.997	0.997	1.000	1.002
3	**Secondary school factors**	KS3 Maths point scores	0.996	1.000	0.994	1.002	0.994	0.999	0.998
		KS3 English point scores	1.008	0.998	1.010	1.003	1.008	1.009	1.006
		KS3 authorised absence sessions	1.061	1.062	1.056	1.062	1.058	1.061	1.060
		KS3 unauthorised absence sessions	0.992	0.989	0.991	0.988	0.992	0.988	0.990
		School mobile (vs non-mobile)	0.974	1.790	0.543	0.617	0.641	0.610	1.16
		Non-selective school (vs selective)	0.550	0.857	2.728	1.390	2.306	2.636	1.745

(Dependent variable: Sum of authorised absences at KS4 (Yes/No)

Another finding was that non-selective schools are associated with more authorised absences at KS4 (odds ratio = 1.75). Possible explanation is that the intakes of non-selective schools are from disadvantaged families, who less concerned about their children's school attendance.

The results also show that school mobile pupils (i.e. pupils that joined their school during the last two years in KS4) were more likely to be recorded as officially absent (odds ratio= 1.16) than non-mobile pupils (i.e. pupils settled in their school for more than two years). One possible explanation could be attributed to the background of school mobile children. These children could be from new arrivals, or immigrants, or travellers, or Gypsy Roma families. These families have their own concerns about living. School attendance might be not from these concerns. Thus, these pupils miss more school sessions than their peers from non-mobile children.

The next section looks at the results of the multiple linear regression model predicting authorised absences at KS4.

7.6.2.2 The multiple linear regression models to predict authorised absences at KS4

The results in Table 7-26 show that secondary school factors (academic attainment - KS3 Maths and English point scores), and school absences (KS3 absences/authorised and unauthorised), school mobility, and type of school attended, can explain the variation in authorised absences at KS4 by 10% more than pupils' characteristics from birth (3%) and primary school factors (5%) (KS2 Maths and English point scores, KS2 absences - both authorised and unauthorised).

Table 7-26: Summary of multiple linear regression models to predict authorised absences at KS4 (N=554,145 pupils)

No.	Block	R^2
1	**Pupils' characteristics from birth**	0.03
2	**Primary school factors**	0.08
3	**Secondary school factors**	0.18

The regression models are meaningful because they explain some variation in the total of authorised absences in KS4, but they did not explain that much. Beside possible errors, clearly, there are other factors could explain the variation in authorised absences such as health records.

As can be seen from the result, authorised absences were associated with school indicators, especially at the secondary level of schooling. The standardised coefficients in Table 7-27 show that school absences at KS3 were the indicators most associated with authorised absences at KS4, but not as strong as expected.

Table 7-27: Regression coefficients of multiple linear models to predict authorised absences at KS4

No.	Block	Variables in Block	Standardised (B) Coefficients
1	**Pupils' characteristics from birth**	Age in months	0.012
		Female	0.063
		SEN	0.056
		Non-White	-0.028
		FSM missing	-0.047
		FSM	0.018
		Language missing	0.012
		Non-English	-0.035
2	**Primary school factors**	KS2 Maths point scores	-0.006
		KS2 English point scores	0.016
		KS2 authorised absence sessions	0.089
		KS2 unauthorised absence sessions	0.001
3	**Secondary school factors**	KS3 Maths point scores	-0.012
		KS3 English point scores	-0.004
		KS3 authorised absence sessions	0.041
		KS3 unauthorised absence sessions	0.043
		KS4 school mobile	0.025
		Selective school	0.071

(Dependent variable: Sum of authorised absences at KS4)

These findings suggest that absences at KS3, which are closer to KS4, may influence school attendance at KS4 more than any other factors. In addition, the regression coefficients indicate that disadvantaged pupils' absences are less likely to be recorded as authorised.

It is interesting to find that unauthorised absences in primary school seem weakly associated with authorised absences. This finding could suggest a pattern of authorised absences, namely that a group of pupils with a history of authorised absences continues to have the same type of absences. This finding to some extent concurs with results of other regression models have shown, raising the probability of reasons for absences which were missed in this study's dataset. Knowing the reasons for absences could make the results clearer.

There are a number of reasons that absences are deemed legitimate, whereby the absence of a child will officially be recorded as authorised. These reasons could be attributable to medical grounds as ill health and medical appointments are considered authorised causes of school absence. Therefore, there is a possibility that pupils that were recorded as authorised absentees were ill or were making regular visits to hospitals, resulting in more authorised absences.

Lack of transport could be another cause of authorised absences. LAs are responsible for providing affordable transportation for the pupils within their jurisdiction; if not, school absences due to a lack of transport will be considered legitimate grounds for an authorised absence. Therefore, pupils may miss school frequently and be recorded as authorised absentees.

There are other genuine reasons for authorised absences, such as, among others, funerals, and religious events. However, the decision to accept these reasons as valid reasons as authorised is down to the individual school. However, one question that emerges here would be the extent to which school plays a role in massaging their school attendance figures. When do schools record absences as authorised, and for whom?

7.6.3 Predicting unauthorised absences at KS4

The second type of school absence which is challenging for both schools and policymakers to record and manage is unauthorised absence. If a pupil of compulsory education age is absent from school without a legitimate reason deemed acceptable by the school, the absence will be recorded unauthorised.

This section presents the results of the regression models conducted to predict unauthorised absences at KS4. The first models were binary logistic regression models and the second were multiple linear regression models. In both types of modelling, two regression models were run,

one with and one without the missing data. The protocol and consequence of entering the variables were similar to the previous models that were run to predict authorised absences.

7.6.3.1 Binary logistic regression models to predict unauthorised absences at KS4

As Table 7-28 shows, pupils' characteristics from birth (age, gender, SEN, ethnicity, FSM, and language group) explain 9% of the unexplained variation (4.3/40.9) in KS4 unauthorised absences. This figure is followed by secondary school factors (KS3 Maths and English point scores, authorised and unauthorised absences, school mobility, and type of school attended), which also add 9% to the power of prediction of the model. This result showed that variables included in the models are not sufficient to explain all the variation in unauthorised absences. For more classification of the percentages predicted correctly per block of the model, see Appendix 8 (Table 2).

Table 7-28: Summary of the binary logistic regression models to predict unauthorised absences at KS4 (N=554,145 pupils)

No.	Block	Percent Correct
0	**Base**	59.1
1	**Pupils' characteristics from birth**	63.4
2	**Primary school factors**	65.3
3	**Secondary school factors**	69.5

Therefore, pupils' background characteristics seem associated with unauthorised absences of pupils aged 16. The odds ratio obtained from the model show that missing data of SEN was strongly associated with unauthorised absences at age 16 by odds ratio = 10.77, followed by FSM (odds ratio = 1.54), and school mobility (odds ratio = 1.37), all of which seem good indicators of unauthorised absences (see Table 7-29).

Table 7-29: Regression coefficient obtained from the binary logistic regression models to predict unauthorised absences at KS4

No.	Block	Variables in Block	Exp (B)
1	**Pupils' characteristics from birth**	Age in months	1.023
		Male (vs female)	1.030
		SEN missing (vs non-SEN)	10.771
		SEN (vs non-SEN)	1.137
		Non-White (vs White)	1.204
		FSM missing (vs non-FSM)	0.999
		FSM (vs non-FSM)	1.539
		Non-English (vs English)	1.147
2	**Primary school factors**	KS2 Maths point scores	0.988
		KS2 English point scores	0.986
		KS2 authorised absence sessions	1.008
		KS2 unauthorised absence sessions	1.031
3	**Secondary school factors**	KS3 Maths point scores	0.989
		KS3 English point scores	0.992
		KS3 authorised absence sessions	1.019
		KS3 unauthorised absence sessions	1.089
		School mobile (vs not mobile)	1.367
		Non-selective school (vs selective)	1.283

(Dependent variable: Sum of unauthorised absences (Yes/No))

In terms of school absences, unauthorised absences at KS3 (odds ratio = 1.09) were more associated with KS4 unauthorised absences than KS2 unauthorised and KS3 authorised absences (odds ratio = 1.03). This result could suggest a pattern of unauthorised absences. Pupils that have previous records of unauthorised absences are more likely to have the same records of absences at KS4 than their peers.

The results show that a group of pupils with certain characteristics and a history of school absences continued to be absent from school without an acceptable reason: a male pupil with a SEN, eligible for FSM, from a minority ethnicity, a non-native speaker of English, used to being an unauthorised absentee, joined school during the last two years of secondary schooling, and attends a non-selective school.

7.6.3.2 Multiple linear regression models to predict unauthorised absences at KS4

The results in Table 7-30 show that secondary school factors (KS3 Maths and English point scores, authorised and unauthorised absences, school mobility, and type of school attended) explain 15% of the variation in unauthorised absences at KS4. This was the highest percentage among the blocks of variables that were entered in the model. Thus, it is clear that there are further factors that could explain unauthorised absences.

Table 7-30: Summary of multiple linear regression models to predict unauthorised absences at KS4 (N=554,145 pupils)

No.	Block	R^2
1	**Pupils' characteristics from birth**	0.05
2	**Primary school factors**	0.09
3	**Secondary school factors**	0.24

This result was consistent with what was found in the previous models run to predict unauthorised absences at KS4. The consistency of these results suggest that secondary school indicators are the most influential factors for unauthorised absences.

The standardised coefficients in Table 7-31 show that KS3 unauthorised absences (38%) were the strongest factor associated with KS4 unauthorised absences. This result could suggest that if you want to predict unauthorised absences in KS4, the best indicator is previous unauthorised absences in KS3.

Table 7-31: Regression coefficients of multiple linear models to predict unauthorised absence at KS4

No.	Block	Variables in Block	Standardised (B) Coefficients
1	**Pupils' characteristics from birth**	Age in months	0.008
		Female	0.005
		SEN	0.042
		Non-White	-0.015
		FSM missing	0.010
		FSM	0.068
		Language missing	-0.053
		Non-English	-0.014
2	**Primary school factors**	KS2 Maths point scores	-0.003
		KS2 English point scores	-0.009
		KS2 authorised absence sessions	0.027
		KS2 unauthorised absence sessions	0.070
3	**Secondary school factors**	KS3 Maths point scores	-0.031
		KS3 English point scores	-0.012
		KS3 authorised absence sessions	0.105
		KS3 unauthorised absence sessions	0.377
		KS4 school mobile	0.041
		Selective school	-0.008

(Dependent variable: Sum of unauthorised absences)

Therefore, the results of the regression models show that a similar record of absences is the best indicator of future absences. The characteristics of a group of pupils recorded as unauthorised

absentees also represent the most deprived children. One possible explanation for these results may be family and home circumstances. Children from deprived backgrounds are more likely to experience difficult and challenging circumstances that hinder their school attendance. One example is unpaid young carers. In some cases, pupils might stay at home to care for a sick or disabled parent or younger sibling, especially in low income families as these families are less able to pay for care services. Therefore, an older sibling could be absent from school and the reason for this absence is hidden, leading the absence to be recorded by the school as unauthorised.

Another possibility could be term-time holidays, a factor which some schools see as behind many unauthorised absences. Although some schools consider this vacation within school term days as unauthorised, official policy on term-time holidays is unclear, and the decision to record children as unauthorised absentees for taking a term-time holiday is at the discretion of head teachers.

7.6.4 Summary

The results of the regression models show that background characteristics are determinants of school attendance. The different indicators entered in the models show a contribution to and association with school attendance at KS4. However, pupils' history of attendance is strongly associated with their current school attendance, both authorised and unauthorised. This finding could indicate that the dominant characteristics of children from birth (age, gender, SEN, FSM, ethnicity, and use of English) are the main influencing factors on school attendance compared to the school indicators (school attendance, academic attainment, mobility and school type).

7.7 Predicting school fixed exclusions at KS4

7.7.1 Introduction

The issue of school exclusions, one of the most controversial questions in UK education matters, is multifaceted issue and many aspects of the problem remain unclear and ambiguous. This chapter explores some of the challenges that researchers face when researching school exclusion data.

This section presents the results from regression models (binary logistic regression and multiple linear regression models) to predict school fixed exclusions at KS4. The same protocol that was used for school attendance models was used here. (Details of methods are found on Chapter 6).

7.7.1.1 A binary logistic regression models to predict school fixed exclusions

Several binary logistic regression models were constructed using sub-samples to achieve the most meaningful model, as in what followed in the school attendance modelling (authorised absences). A key point to be mentioned here is that minimal differences were noted between the used sample for comparator groups in each model due to the randomised selection of pupils that have no exclusions. The process involved reshuffling and then blindly randomising the comparator groups.

Results in Table 7-32 show that pupils' characteristics from birth (age in months, gender, ethnicity, EAL, SEN, and FSM) could explain the unexplained variations in school exclusions at KS4 by 31% (or 15.2/49.8). When primary school factors (KS2 Maths, and English point scores, KS2 authorised, and unauthorised absences) were entered the model, they added only 4%. And secondary school factors (KS3 Maths and English point scores, authorised and unauthorised absences, school mobility, and type of school attended) raised the prediction power by 9%. For more classification of percentages predicted correctly per block of all six models, see Appendix 9.

Table 7-32: Summary of six binary logistic regression models to predict fixed exclusions at KS4

No.	Block	Model 1 (N=44,961)	Model 2 (N=44,876)	Model 3 (N=44,615)	Model 4 (N=44,950)	Model 5 (N=44,968)	Model 6 (N=44,990)	Average Model
		Percent Correct	Percent Correct	Percent Correct	Percent Correct	Percent Correct	Percent Correct	Percent Correct
0	**Base**	50.2	50.1	50.2	50.1	50.2	50.2	**50.2**
1	**Pupils' characteristics from birth**	63.0	67.6	64.3	66.5	65.0	66.2	**65.4**
2	**Primary school factors**	65.1	72.4	67.7	67.0	65.9	67.5	**67.6**
3	**Secondary school factors**	69.2	79.4	72.2	70.8	69.9	71.1	**72.1**

However, it is important to estimate the contribution of each variable included in this model to be able to predict the likelihood of being excluded or not. As appears from the results in Table 7-33, gender (in favour of boys) (odds ratio = 2.16) seemed the strongest determinant associated with fixed exclusions at KS4, followed by SEN (odds ratio = 1.82), FSM (odds ratio = 1.59), and ethnicity (odds ratio = 1.25). School type (in favour of non-selective schools) (odds ratio = 2.25), and school mobility (odds ratio = 1.97) were associated with fixed exclusions. However, once pupil background is controlled for, school attendance and attainment are still associated with school exclusions but seem not as strong as might be expected.

Table 7-33: Regression coefficients obtained from six models to predict fixed exclusions at KS4 (Dependent variable: Total of fixed exclusions at KS4 (Yes/No))

No.	Block	Variables in Block	Model 1 Exp (B)	Model 2 Exp (B)	Model 3 Exp (B)	Model 4 Exp (B)	Model 5 Exp (B)	Model 6 Exp (B)	Average Model Exp (B)
1	**Pupils' characteristics from birth**	Age in months	1.027	1.031	1.028	1.024	1.027	1.024	**1.027**
		Male (vs female)	2.351	1.742	1.700	2.471	2.162	2.550	**2.163**
		SEN (non-SEN)	1.631	1.914	1.978	1.571	1.815	2.040	**1.825**
		Non-White (vs White)	1.032	1.398	1.033	0.577	1.634	1.813	**1.248**
		FSM (vs non-FSM)	1.369	2.021	1.489	1.075	1.558	2.040	**1.592**
		English (vs non-English)	0.622	0.888	0.417	0.393	1.055	0.929	**1.394**
2	**Primary school factors**	KS2 Maths point scores	1.011	0.972	0.968	0.987	1.004	1.010	**0.992**
		KS2 English point scores	0.996	0.977	0.977	0.990	1.007	1.005	**0.992**
		KS2 authorised absence sessions	0.997	1.020	1.012	0.997	0.995	0.991	**1.002**
		KS2 unauthorised absence sessions	1.005	1.026	0.999	0.990	1.016	1.025	**1.010**
3	**Secondary school factors**	KS3 Maths point scores	0.960	0.975	0.986	0.974	0.962	0.951	**0.968**
		KS3 English point scores	0.963	1.000	1.015	0.973	0.958	0.983	**0.982**
		KS3 authorised absence sessions	1.010	1.085	1.056	1.015	1.010	1.011	**1.031**
		KS3 unauthorised absence sessions	1.017	1.039	0.996	1.014	1.012	1.024	**1.017**
		School mobile (vs not mobile)	1.741	2.073	1.008	1.960	2.363	2.644	**1.965**
		Non-selective school (vs selective)	2.103	1.242	1.629	3.396	3.177	1.981	**2.255**

The above results in Table 7-33, show that pupils' characteristics from birth were the most reliable indicators of fixed exclusions at KS4. School indicators, especially at primary school level, seemed not to have an influence on fixed exclusions.

Therefore, a boy with a SEN, from a minority ethnicity, and eligible for FSM is more likely to be at risk of school exclusions than a white British girl, without a SEN, and not in receipt of FSM.

SEN pupils have a range of learning difficulties that possibly affect their academic performance and behaviour. However, the dataset of this study has not been designed to explore the reasons for school exclusions or even the type and level of SEN that pupils experience. Therefore, although the obtained results of the regression model show a pattern of excluded pupils, explanations underpinning these findings are much less clear, and hence further analysis was conducted to explain the variation in school exclusions at KS4. This analysis based on multiple linear regression modelling.

7.7.1.2 Multiple linear regression models to predict fixed school exclusions

This section presents the results of the multiple linear regression model run to explain the variation in fixed exclusions at KS4. The exclusion model followed the same protocol and sequence of entering variables that was used in previous models, the only difference being the sample used.

The results in Table 7-34 show a weak predictive power for the three blocks of variables used to explain the variation in school exclusions at KS4. The weakness in the results could be due to possible errors, further components that are missing which perhaps are more strongly associated with exclusions. Another possibility could be the small percentage of excluded pupils (4%) compared to the study dataset.

Table 7-34: Summary of multiple linear regression models to predict fixed exclusions at KS4 (N = 554,145 pupils)

No.	Block	R^2
1	**Pupils' characteristics from birth**	0.02
2	**Primary school factors**	0.02
3	**Secondary school factors**	0.03

Table 7-35 presents the standardised coefficients for the variables despite their inability in explaining the issue of school fixed exclusions. Therefore, the available data on school exclusions did not allow school patterns of exclusions to be determined.

Table 7-35: Regression coefficients of multiple linear models to predict fixed exclusions at KS4

No.	Block	Variables in Block	Standardised (B) Coefficients
1	**Pupils' characteristics from birth**	Age in months	0.006
		Female	-0.054
		SEN	0.064
		Non-White	-0.001
		FSM missing	-0.003
		FSM	0.041
		Language missing	-0.030
		Non-English	-0.029
2	**Primary school factors**	KS2 Maths point scores	-0.010
		KS2 English point scores	-0.015
		KS2 authorised absence sessions	-0.011
		KS2 unauthorised absence sessions	0.008
3	**Secondary school factors**	KS3 Maths point scores	-0.025
		KS3 English point scores	-0.014
		KS3 authorised absence sessions	0.050
		KS3 unauthorised absence sessions	0.052
		KS4 school mobile	0.031
		Selective school	0.0001

(Dependent variable: Total fixed exclusion sessions at KS4)

It is notable that there is a need for different variables or more specific information that might be linked to exclusions than what was actually used. Surprisingly, the results suggest that school attendance was not linked with school exclusions. This finding also shows that exclusions were not linked to educational issues in this model.

7.7.2 Summary

According to the results of the binary logistic regression model, older boys, eligible for FSM, with a SEN, and from a minority ethnicity were more likely to have a fixed exclusion at KS4, all other variables held constant. However, the multiple linear regression model did not show any significant finding that could be considered in terms of fixed exclusions at KS4.

7.8 Association between school attendance and academic attainment

7.8.1 Introduction

From the national figures, it is evident that school attendance is associated with academic attainment in different stages of schooling (DfE, 2016b). This section investigates the association between school attendance (authorised and unauthorised absences), school exclusions (fixed and permanent), and academic attainment at Key Stages 2, 3, and 4. A key point to note is that comparing the results of different Key Stages was not possible due to the different protocols that were used to calculate academic attainment in each Key Stage. Pearson correlation coefficients are presented in Table 7-36.

Table 7-36: Correlation between school attendance, exclusions, and academic attainment by Key Stages at KS2 (N=525,242 pupils), KS3 (N=544,031pupils), KS4 (N=546,250 pupils)

		English point scores	Math point scores	Authorised Absence	Unauthorised Absence	Fixed Exclusions	Permanent Exclusions
KS2	English point scores	1					
	Maths point scores	0.64	1				
	Authorised Absence	-0.15	-0.17	1			
	Unauthorised Absence	-0.15	-0.16	0.13	1		
	Fixed Exclusions	-0.06	-0.04	0.08	0.06	1	
	Permanent Exclusions	-0.01	-0.01	0.03	0.02	0.11	1
		English point scores	Maths point scores	Authorised Absence	Unauthorised Absence	Fixed Exclusions	Permanent Exclusions
KS3	English point scores	1					
	Maths point scores	0.81	1				
	Authorised Absence	-0.14	-0.17	1			
	Unauthorised Absence	-0.19	-0.19	0.15	1		
	Fixed Exclusions	-0.14	-0.13	0.35	0.19	1	
	Permanent Exclusions	-0.03	-0.03	0.05	0.01	0.05	1
		Capped GCSE and equivalents point score	Authorised Absence	Unauthorised Absence	Fixed Exclusions	Permanent Exclusions	
KS4	Capped GCSE and equivalents point score	1					
	Authorised Absence	-0. 25	1				
	Unauthorised Absence	-0.39	0.15	1			
	Fixed Exclusions	-0.21	0.18	0.15	1		
	Permanent Exclusions	-0.04	0.05	0.02	0.08	1	

Table 7-36 shows that KS2 English point scores were correlated with authorised absences and unauthorised absences (r = -0.15). Maths point scores were also correlated with authorised absences (r = -0.17) and unauthorised absences (r = -0.16). In general, pupils with lower school absence have higher academic attainment. However, the correlation between school exclusions at KS2 and Maths point scores (r = -0.04) and English point scores (r = -0.06) was trivial. A possible explanation of the small but positive correlation between academic attainment and school exclusions in primary schools might be the low percentage of excluded pupils at this phase of schooling, as shown in the results of the simple descriptive analysis of this study (see Table 7-7).

The results show that in KS3, authorised absences were correlated with Maths point scores (r = -0.17), and English point scores (r = -0.14). However, both English and Maths point scores were correlated more with unauthorised absences (r = -0.19). In addition, the results showed a relationship between school fixed exclusions and English point scores (r = -0.14), and Maths point scores (r = -0.13).

In KS4, the capped point scores showed a strong correlation with authorised absences (r = -0.25) and stronger correlation with unauthorised absences (r = -0.39). In addition, fixed exclusions were correlated with academic attainment (r = -0.21) and authorised absences (r = -0.18) and unauthorised absences (r = -0.18), as shown in Table 7-36.

The correlation between fixed exclusions and academic attainment was expected. School exclusions and school absences are two faces of the same coin. Although school exclusions are linked to behavioural issues, and these actions are usually a last resort, excluding pupils means preventing them from attending school and recording pupils as absentees. The net result is that these pupils fail to fulfil their potential for learning at schools and their subsequent academic attainment is adversely affected, with all that entails for later life.

The high correlation between unauthorised absences and academic attainment, particularly in KS3 and KS4, begs the question of whether unauthorised absences impact the academic attainment, or vice versa. In other words, does missing school sessions lead to low academic progress, or does low academic progress lead to missing school? What was expected is that any absence from school could impact the academic attainment of the pupils at a similar level.

A possible explanation for the different effect sizes of the two types of school absences and academic attainment could be the existence of possible indicators related to home or personal characteristics.

7.8.2 Summary

In sum, academic attainment was correlated with school attendance and exclusions in all key stages included in this analysis. The association between unauthorised absences and academic attainment was more significant than authorised absences and fixed school exclusions. Finally, this brings us to consider the extent that school attendance matters in terms of academic attainment, and also the extent to which a pupil's background characteristics and school indicators are useful for predicting academic attainment at KS4.

7.9 Predicting academic attainment at KS4

7.9.1 Introduction

This section presents the results from two models. The first one is a binary logistic regression model to predict achieving 5 GCSEs or equivalent A*-C, including English and Maths. The second model was a multiple linear regression model to predict capped GCSEs or equivalent point scores. The consequence of entering these variables into the model was to explore which of the stages of a pupils' life play the most important role in their KS4 educational outcomes. A logistic regression model was constructed to predict achieving 5 GCSEs or equivalent A*-C, including English and Maths, at KS4.

7.9.1.1 A binary logistic regression models to predict achieving 5 GCSEs or equivalent including English and maths

Results in Table 7-37 show that pupils' characteristics from birth (age in months, gender, ethnicity, EAL, SEN, and FSM) could explain a full 28% of the unexplained variation (or 12/43) in school exclusions at KS4. When primary school factors (KS2 Maths, and English point scores + KS2 authorised and unauthorised absences) were entered in the model, 21% was added. Secondary school factors (KS3 Maths and English point scores, authorised and unauthorised absences, school mobility, and type of school attended) raised the prediction power by 6%. For more classification of percentages predicted correctly per block of the model, see Appendix 10.

Table 7-37: Summary of the binary logistic regression model to predict achieving 5 GCSEs or equivalent including English and Maths (N=554,145 pupils)

No.	Block	Percent Correct
0	**Base**	57.0
1	**Pupils' characteristics from birth**	69.0
2	**Primary school factors**	78.1
3	**Secondary school factors**	80.8

According to the regression models in Table 7-37, pupils' characteristics from birth, followed by primary school indicators, can predict academic attainment at KS4 more than secondary school indicators. This finding highlights the importance of the early stages of a pupil's life and shows the influential role that personal characteristics and home indicators play in pupils' educational progress. In addition, the result suggests that early intervention could be more effective to promote the academic attainment of pupils from disadvantaged backgrounds.

Table 7-38 shows the same results. Pupils' characteristics from birth can predict their academic attainment at KS4. The results show that older girl pupils that do not have a SEN, are from a minority ethnicity, are not eligible for FSM, have EAL status, have a high academic attainment at prior Key Stages (KS2 and KS3), are non-school mobile, and attend a selective school are likely to achieve 5 GCSEs or equivalent A*- C with English and Maths at KS4, other variables being constant.

Table 7-38: Regression coefficients obtained from the binary logistic regression model to predict achieving 5 GCSEs or equivalent A*- C including English and Maths at KS4

No.	Block	Variables in Block	Exp (B)
1	**Pupils' characteristics from birth**	Age in months	0.992
		Male (vs female)	0.598
		SEN missing (vs non-SEN)	0.405
		SEN (vs non-SEN)	0.491
		Non-White (vs White)	1.324
		FSM missing (vs non-FSM)	0.015
		FSM (vs non-FSM)	0.651
		Non-English (vs English)	1.317
2	**Primary school factors**	KS2 Maths point scores	1.188
		KS2 English point scores	1.160
		KS2 authorised absence session	1.002
		KS2 unauthorised absence sessions	0.994
3	**Secondary school factors**	KS3 Maths point scores	1.062
		KS3 English point scores	1.010
		KS3 authorised absence sessions	0.981
		KS3 unauthorised absence sessions	0.967
		School mobile (vs not mobile)	0.944
		Selective school (vs non-selective)	1.433

(Dependent variable: Achieving 5 GCSEs or equivalent A*- C with English and Maths at KS4 (Yes/No))

One interesting finding is that prior absences at KS2 were not associated with academic attainment at KS4. Unauthorised absences at KS3 (odds ratio = 0.967) were more associated with academic attainment at KS4 than authorised absences (odds ratio = 0.981). This finding could indicate that type and time of absence do matter in terms of academic attainment. Pupils that are absent from school at secondary level without acceptable reason by their school are less likely to achieve good academic results at KS4. However, further analyses were conducted before any definitive conclusions were drawn.

7.9.1.2 Multiple linear regression models to predict capped GCSEs or equivalents point scores

This section presents the results from a multiple linear regression model that examined the association between the available explanatory variables pupils' characteristics from birth, primary school factors, and secondary school factors with academic attainment at KS4. The consequence of entering variables in the model and the number and sequence of blocks were the same as the previous binary logistic model.

As can be seen from the results in Table 7-39, pupils' characteristics from birth (age in months, gender, ethnicity, EAL, SEN, and FSM) could explain 29% of the variations in capped point scores. When primary school indicators (KS2 Maths, and English point scores, KS2 authorised, and unauthorised absences) were entered in the model, the percentage of prediction rose by 21%. Secondary school indicators (KS3 Maths and English point scores, authorised and unauthorised absences, school mobility, and type of school attended) added 11% to the ability of the model to explain the variations in capped point scores at KS4. These regression models are good in predicting the variation in KS4 academic attainment but there is a remaining unexplained percentage in the variation in the capped GCSEs or equivalent point scores. Perhaps further components, that were not included in these models, are more able to explain the unexplained variation in KS4 exams results.

Table 7-39: Summary of multiple linear regression models to predict capped GCSEs or equivalent point scores (N=554,145 pupils)

No.	Block	R^2
1	**Pupils' characteristics from birth**	0.29
2	**Primary school factors**	0.50
3	**Secondary school factors**	0.61

However, it is important to see the contribution of each variable to the power of this model. The results in Table 7-40 show that girl pupils that do not have a SEN, are from a minority ethnicity, are not eligible for FSM, have English as a first language, have a high academic attainment in previous years of schooling, are non-school mobile, and attend a selective school are more likely to achieve high capped point scores at KS4.

Table 7-40: Regression coefficients of multiple linear regression models to predict capped GCSEs or equivalent point scores

No.	Block	Variables in Block	Standardised (B) Coefficients
1	**Pupils' characteristics from birth**	Age in months	-0.002
		Female	0.091
		SEN	-0.135
		Non-White	0.043
		FSM missing	-0.176
		FSM	-0.074
		Language missing	-0.023
		Non-English	0.039
2	**Primary school factors**	KS2 Maths point scores	0.194
		KS2 English point scores	0.197
		KS2 authorised absence sessions	0.008
		KS2 unauthorised absence sessions	-0.010
3	**Secondary school factors**	KS3 Maths point scores	0.207
		KS3 English point scores	0.085
		KS3 authorised absence sessions	-0.119
		KS3 unauthorised absence sessions	-0.131
		KS4 school mobile	-0.056
		Selective school	0.046

(Dependent variable: Capped GCSEs or equivalents point scores)

Therefore, both the binary logistic and the multiple linear regression models showed similar patterns when other variables were accounted for. The regression coefficients showed an association between absences at KS3 (authorised absences = 0.12, unauthorised absences = 0.13) and academic attainment at KS4. However, prior academic attainment (KS2 Maths and English = 0.19) were more associated with academic attainment at KS4 than school attendance was.

Therefore, the picture that emerges from this model is broadly similar to that of the binary logistic regression model, both suggesting a weak association between school attendance and academic attainment.

The results show that prior academic attainment could predict later academic attainment at KS4. Research has pointed out that many children that have struggled with different educational difficulties in their early stages of schooling fall further behind over the years (Sylva, 2000). Therefore, academic attainment seems to be an accumulative process that can be predicted from the earliest phase of schooling.

Another possible explanation for the finding that prior attainment is the best indicator for academic attainment at KS4 could be high parental expectations. One study pointed out that the expectations of parents play a role in their children's academic achievement (Goodman & Gregg, 2010). Similarly, a meta-analysis study by (Fan & Chen, 2001) showed that the link between parental *expectations* and their children's academic attainment is actually stronger than parental *involvement* in their children's education. However, these parental expectations are stratified by poverty and calibrated according to the child's ability (Goodman & Gregg, 2010). Therefore, pupils coming from disadvantaged families where there exist low expectations of their children's performance could influence academic attainment negatively from the earliest stages of education, continuing right up to graduation, in contrast to pupils that experience high parental expectations, the latter working hard to achieve good marks in school to satisfy their parents.

Another explanation for this finding could be related to pupils' attributes, which may be derived from their parents and their relationship with the school. These attributes include self-discipline, motivation, and persistence from early primary years (Sheppard, 2011). These personal attributes may provide a solid platform for attainment from a very young age and which are then honed over the years.

7.9.2 Summary

The most interesting findings showed that the link between school attendance and academic attainment is not strong. Pupils' characteristics (age, gender, SEN, ethnicity, FSM, and EAL), and school indicators (prior academic attainment, school mobility, and school type) are more

associated with academic attainment than with school attendance. Further, and surprisingly, school exclusions seem not to be associated with school attendance.

The observed patterns of school attendance and exclusions suggest that the problem of school attendance and exclusion is most significant for pupils from disadvantaged backgrounds. Therefore, further investigation of the literature was conducted in the form of a systematic review of current school attendance interventions to assess if there is a sufficient evidence that show improvement in school attendance leads to improvement in academic attainment for disadvantaged children.

CHAPTER 8 RESULTS FROM A SYSTEMATIC REVIEW OF THE EXISTING SCHOOL ATTENDANCE INTERVENTIONS

8.1 Introduction

This chapter presents the results of different stages of a systematic review of school attendance interventions that have targeted disadvantaged pupils to promote their attendance and academic attainment. Firstly, it presents the results of a screening and selecting procedure which selected a number of studies and rejected others, giving the reasons for doing so. Then, it presents the results from the descriptive analysis of the selected studies (publication year, type, source, setting, other outcomes, and targeted groups). This is followed by a description of the selected studies that have evaluated a number of interventions (sample, units, duration of the programme, and the programmes' protocols). Finally, a summary of the results of the selected studies is presented in combination with the results of the assessment of the quality of evidence, followed by a synthesis of the achieved evidence based on the quality rating of the studies.

The guiding research questions of this review are:

- *Which school attendance interventions are currently effective in promoting the academic attainment of pupils from disadvantaged backgrounds in terms of the available evaluated evidence?*

- *What are the characteristics of the effective school attendance interventions that have enhanced the academic attainment for certain targeted groups in terms of their components and protocols?*

8.2 Screening and selecting results

The results from the first stage of the search identified 10,605 studies from their titles. After removing duplicates (n = 19 records), 10,586 studies remained. After applying filters for major headings, subject, language, age group, methodology and population, 10,342 records were excluded. Some studies were deemed ineligible or irrelevant from their titles. An example of irrelevant studies was (Ellis, 2017), whose study investigated the associations between race, ethnicity and criminal behaviours.

A total of 244 studies were thus selected for the screening stage, in which the abstracts of these studies were identified for relevance. Studies that were irrelevant or ineligible during the

screening stage were screened out. Some did not evaluate any intervention (e.g. Conger et al., 2009) because they investigated links between background characteristics (race, poverty, and gender) and academic outcomes. Examples of studies targeting groups of children outside the scope of the review include Jenkins et al. (2016), which targeted preschool children aged three and four, and a study targeting university-aged students to explore the association between ethnicity and higher educational outcomes (Bailey & Weininger, 2002).

Other studies focused on academic attainment and did not apply a measure of school attendance, such as a study by Bailey et al. (2017) evaluating the number of skill-building interventions to avoid social and academic failure, while a study evaluating the impact of school, family and community partnerships on school attendance only (Sheldon, 2007) did not have a measure of academic attainment or how increases in school attendance could influence academic attainment. Other evaluations of interventions targeted disadvantaged groups of children but did not measure school attendance and academic attainment. For example, the evaluation of the impact of the Pupil Premium (PP) by the DfE, to compare between schools in England in terms of schools' perceptions of this additional funding and how they spent it to support disadvantaged children (DfE, 2013a). This study did not apply a measure of school attendance or academic attainment to examine the impact of PP.

A total of 28 studies remained. These studies were read in full and assessed for eligibility to be included in the review. Eight were rejected, two of which missed significant information that was essential for assessment, such as analytical tests, tables and what was exactly measured or details of the targeted sample, the number of cases included in the final analysis, and details of the process of randomisation (which are essential for judging the trustworthiness of findings). For example, Rogers and Feller (2016) was a conference abstract that missed a large amount of detailed information. Other rejected studies were reports about strategies that have been undertaken to monitor chronic absences (Works & Campaign, 2015). Five of the excluded studies (Banerjee et al., 2014; Ewen & Topping, 2012; Henderson et al., 2016; Kahne et al., 2008; Kirti V. Das, 2015) had no control groups to conduct comparisons to investigate causality and evaluate the effectiveness of the evaluated programmes. The final rejected study was a systematic review, not an evaluation of a specific intervention (Evans et al., 2017). However, this study itself was useful as a guide, and its list of references was searched. Therefore, a sum

total of 20 studies met the inclusion criteria of the review and were used for the analysis stage (see Figure 8-1).

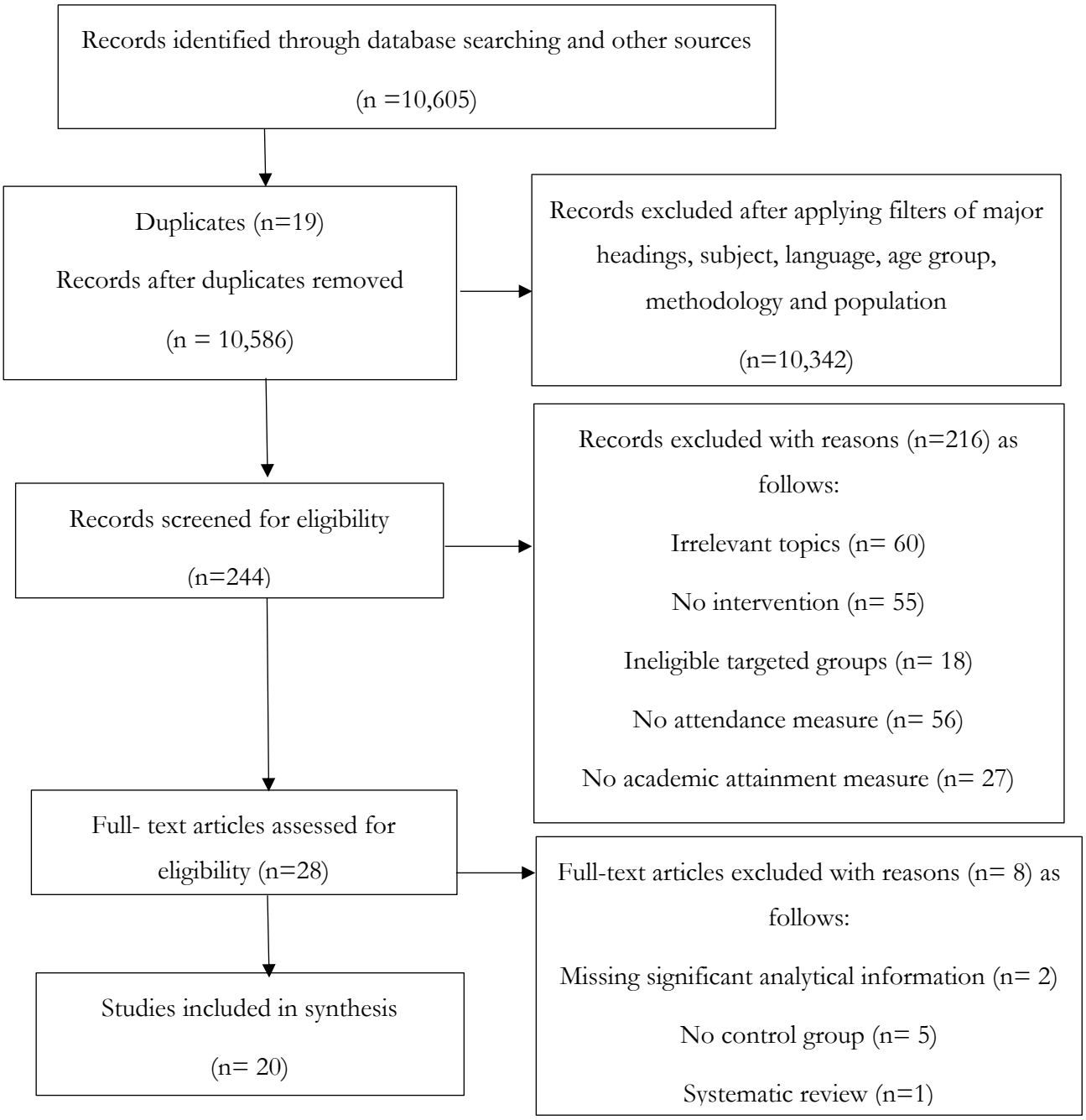

Figure 8-1: Results of search and selection procedure

8.3 Results of the descriptive analysis

8.3.1 Description of the included studies

Table 8-1 summarises the characteristics of the 20 selected studies. As shown, 12 were QES, and 13 were published between 2014-2017, which means that most of the selected studies were recent and appeared to be relevant. More than half of the studies (n = 13) were from journal publications. Approximately half of the studies (n = 11) were US-based. The European studies were: one in the UK, one in France, and one in Portugal. The African studies were: one in Burkina Faso, two in Kenya, one in Tanzania, and one in Malawi.

Table 8-1: Characteristics of the included studies

Characteristics	N of studies
Research design	
RCT	8
QES	12
Publication year	
2009-2013	7
2014-2017	13
Publication type	
Journal	13
Thesis	4
Report	1
Policy working paper	1
e-Book	1
Source database	
ProQuest Dissertations & Theses Global database	4
Eric	13
Google Scholar	3
Countries	
USA	11
Europe	3
Africa	5
Turkey	1

It is worth bearing in mind that each context has its own specific population composition, ethnic diversity, attitudes to schooling, and socio-economic circumstances, all of which might have an influence on how any interventions are received and responded to. For example, in the UK, although there is a significant debate in public and at the political level on school attendance

matters, and although there is also high quality of attendance data available, there is surprisingly little known about school attendance (Reid, 2003).

More than half of the selected studies (n = 11) targeted more than one component such as parents, community, schools, and teachers (see Table 8-2). However, all the targeted pupils shared similar characteristics: they had a school attendance problem, were low academic attainers, and were from the most disadvantaged backgrounds (low-income families, living in deprived areas, orphaned, in receipt of free school meals, or suffering from a disability), and from diverse communities.

Table 8-2: Targeted groups of the included studies

Targeted group(s)	N of studies
Pupils	9
Parents and pupils	3
Parents, pupils, and community	2
School and pupils	3
Teachers, school and pupils	3

The selected studies used school attendance or absences and academic attainment as outcome measures. However, the researchers in these studies used different measures of change for school attendance: percentage of days attended, percentage of absence days, number of unexcused absences, number of absence days, and number of absence sessions (two sessions = one day). For academic attainment, the studies used either test scores or Grade Point Average (GPA). In some studies, both measures for academic attainment (test scores and GPA) were used.

The included studies measured a range of various outcomes to evaluate the impact of the used interventions. Table 8-3 summarises the other outcomes of the selected studies (i.e. excluding school attendance or attainment).

Table 8-3: Other outcomes of the selected studies

Outcome	N of studies
School enrollment	1
Grade retention	1
Grade promotion	2
Drop out	2
Behaviour	8
Health improvement	2
Consumption of stipend	1
Parental involvement	1
School improvement	2

As shown in Table 8-3, nearly half of the included studies (n = 8) evaluated the effects of the interventions on pupils' behaviour. Behaviours as an outcome are included various disciplinary measures such as school exclusions (suspensions or expulsions), referrals, and school engagement (relationships between pupils, teachers, and the school). In some of the selected studies, school attendance was a secondary outcome. However, the review included these studies to take advantage of any attempt they may have made to assess the impacts of existing interventions on school attendance. An example of that is Evans et al. (2014), whose study is mainly devoted to evaluating the success of the community in implementing a Conditional Cash Transfer (CCT) programme. However, the study also measured the impacts of the programme on school absences and literacy accomplishments. Another example is a study by Davey et al. (2015), whose research focused on the impacts of a health programme (worm infections). However, the study also measured the impacts of the programme on school attendance and academic attainment.

Although all included studies were based on administrative governmental data and school records, most of the studies also used an additional data source such as surveys and interviews with different components such as parents and teachers.

Different statistical tests were used by the researchers across the selected studies to evaluate and assess the impact of the adopted intervention programme on school attendance and attainment. Logistic and linear and multilinear regressions were used to estimate the average effects of the intervention on school attendance and attainment. Some studies used effect sizes to evaluate the impact on the treatment group in addition to simple descriptive statistics (averages, percentages and cross-tabs) utilised to analyse qualitative data collected from surveys and interviews (for more detailed information, see the summary of the selected studies in Appendix 11.

8.3.2 Description of the included interventions

The included intervention programmes were grouped into seven categories based on the protocols and implementations that they followed: financial interventions, counselling and mentoring interventions, out-of-school educational interventions, health interventions, school reforms, parental involvement interventions, and school engagements for pupils from disadvantaged backgrounds. However, the categories are not mutually exclusive; the implementation of some of the included interventions comprise more than one. As noted in Chapter 7, a key point to mention here is that most of the selected studies (n = 14) did not report the implementation costs of the programmes.

8.3.2.1 Financial interventions

Financial interventions are programmes which use financial initiatives to promote school attendance and enhance learning outcomes. The review included five programmes in this category. Two of these programs were cash transfers (Akresh et al., 2013; Evans et al., 2014). These interventions were a stipend given to parents, either with the condition to ensure their children's attendance at school or without any conditions attached to how the parents could spend the stipend. According to the study, the overall cost of the programme was approximately $42 per pupil.

Another of the financial interventions was to set incentives for school teachers (Fryer, 2013). This programme targeted the lowest-performing schools and offered them extra funds, conditional upon achieving a given target level of progress in terms of school attendance and attainment. If the participating school achieved 100% of the targeted goals of the programme, the school received the equivalent of $3000 per full-time teacher. If the participating school

achieved 75% of the programme's targeted goals, the school received the equivalent of $1500 per full-time teacher. However, the direction of the design of the incentives was determined by the targeted schools. According to the study, the overall cost of the programme was approximately $75 million.

The other two financial interventions were not cash support (Cho et al., 2017; Jukes et al., 2014). These interventions paid school fees and school uniform costs and provided educational resources for the participants. According to the study, the cost of the programme was $43 per pupil at risk of school drop-out, and $8.5 per enrolled pupil (Jukes et al., 2014).

In sum, these financial interventions ranged in terms of funds given (cash and payments), and the recipient of the support (family, teachers, and schools).

8.3.2.2 Counselling and Mentoring interventions

Counselling and Mentoring programmes were based on delivering advice and guidance to the targeted groups and mentoring their progress. In these programmes, training courses were delivered to school teachers to prepare them with the knowhow to treat targeted groups. The majority of these programme types were guided by specialist councillors. These programmes worked to enhance the character of pupils by promoting values such as self-esteem and confidence, respect and appreciation of the value of education.

There were five counselling and mentoring interventions. Three of these interventions were delivered through face-to-face meetings with a targeted group (Beyenhof, 2015; Cantu, 2013; MacIver et al., 2016). These programmes used meetings as their method of delivery to build relationships with participants to be able to provide support to them.

The other two of this type of intervention were delivered via lectures and activities during school classes (Austin, 2013; Snyder et al., 2009). Each of these programmes had its own specific means of delivery. One used multimedia presentations and books (Austin, 2013) and the other used games, practical skills, and discussions (Snyder et al., 2009). Therefore, these programmes were either meetings or lectures to enhance problem-solving and self-improvement.

8.3.2.3 Out-of-school educational interventions

Out-of-school educational programmes are extra educational supports delivered outside school time (either on school days or non-school days such as weekends or holidays). Therefore, these programmes are mostly instructional classes targeted at low achieving pupils (many of whom are at risk of exclusion).

The review included three such interventions (Coats, 2015; MacIver & MacIver, 2014; O'Donnell & Kirkner, 2014). All provided instructional classes given by teachers to enhance the academic achievements of the targeted pupils, especially in core subjects. Two of these programmes utilised technology to promote learning and attendance (Mac Iver & Mac Iver, 2014). Coats (2015) estimated the cost of the programme was approximately $80,000. Therefore, the included out-of-school interventions entailed either normal classes in which teachers delivered lessons or used technology to promote the process of learning.

8.3.2.4 Health interventions

Health interventions are programmes targeted at deprived areas where epidemic diseases are widespread. These programmes provide the targeted group with cures and health education to limit the spread of diseases within the community and promote school attendance and the academic progress of the children.

The review included one drug-treatment and health-education programme (Davey et al., 2015). The delivery of the programme had two phases: publishing health-education via lectures, wall charts, and messages delivered by trained school teachers; and drug-treatment given to children under 12 years of age from the eligible schools. Therefore, the programme targeted the disease and enhanced health education at the same time as enhancing school attendance and progress (O'Donnell & Kirkner, 2014).

8.3.2.5 School reform interventions

School reform programmes targeted the whole school to make desirable changes. This type of intervention targeted underperforming schools to enhance the quality of their services in order to promote children's school attendance and academic attainment. The reforms included various components such as school policies, administration, and curricula changes.

The review included three interventions. One of the programmes was training delivered to school staff (Evans & Cowell, 2013). A second made structural changes, applied instructional materials and curricula, and provided support and coaching for teachers and administrators (Corrin et al., 2016). The third programme applied substantial and whole-scale changes in the participating schools, beginning with changing school principals, applying new curricula, training teachers, offering out-of-school programmes, and holding parents' workshops (Sun et al., 2017). These school reform interventions thus targeted the whole school and made improvements deemed necessary to engage children at school and promote their academic performance.

8.3.2.6 Parental involvement interventions

Parental involvement programmes targeted the parents of pupils to involve them in their children's education. The involvement of parents in their children's education includes showing concern for their homework and engaging with their academic attainment, having positive attitudes towards schooling and the value of education per se, and stressing the importance of school attendance. This definition of parental involvement is exclusive for families that educate their children in schools i.e. (home-educated children are not included).

The review included one parental involvement intervention (Avvisati et al., 2013). The programme was a sequence of structured meetings between the targeted parents and school representatives. These meetings were conducted every two or three weeks over the one-year duration of the programme. The meetings were mostly discussion-based to encourage parents to discuss specific problems or any concerns related to their children's education. According to the study, the estimated cost of the programme was approximately $13.75 per pupil and $1,719 per school.

8.3.2.7 School engagement interventions for the disadvantaged

School engagement programmes for pupils from disadvantaged backgrounds are conducted to promote school engagement in order to enhance regular school attendance and academic achievement for specified groups of children. The implementation of these programmes involves the families of the targeted pupils in order to strengthen the anticipated effects of programmes.

The review included two school engagement programmes. In the first, targeting the children of Roma Gypsy families (a minority ethnicity in England) (Rosario et al., 2017), a research assistant knocked on the doors of participants' homes to invite their children to go to school. The second programme targeted students with disabilities (SWD) (Sakız, 2017). This intervention involved six training packages covering inclusion education (concepts and pedagogy). Five training packages were for school staff and one package was for parents; the training was delivered at regular meetings. These school engagement interventions were thus implemented through two methods (regular invitations to attend school and training courses for school staff and parents).

8.3.2.8 Summary

The results of the descriptive analyses of the selected interventions and their implementation vary. School attendance interventions were financial support via regular stipends given to parents, covering school fees and school uniform costs, incentives for teachers, and providing educational resources. The second type of school attendance interventions were lectures and one-to-one meetings to counsel and mentor pupils. The third type was out-of-school instructional classes. In some of these classes, technology was utilised for learning purposes. The fourth type of interventions used lectures, wall charts, and health messages in addition to actual health treatment. The fifth type of intervention was school reforms. The sixth type of interventions organised regular meetings designed to involve parents in their children's education. The last type of intervention was training packages for school staff and parents.

8.3.3 Synthesising the evidence

This section summarises the results of the selected studies and assesses the quality of the collected evidence. The rating of the evidence was based on a specific criterion. This criterion considers the design of the research, scale, dropout, quality of data, and other threats. For more details see (Gorard et al., 2017). The results of each category of interventions are presented in terms of their impact on school attendance and the academic attainment of the targeted groups.

8.3.3.1 Financial interventions

It can be seen from Table 8-4 that three of the included studies show a positive impact of the interventions. One study of 4,953 children aged 7-15 from rural areas found an increase in the school attendance rate from a cash transfer programme, but no impact on academic attainment

(Akresh et al., 2013). The second study used a sample of 2,379 children aged 7-17 from the most deprived families (Evans et al., 2014). The evaluation of this programme found a positive impact for conditional cash stipends on school enrollment and attendance and, notably, on academic attainment. The third study, of 2,767 children aged 8-20 who were orphaned and considered as at risk of exclusion (Jukes et al., 2014), found a decrease in the exclusion rate for the participants, but no impact on academic attainment. However, there was a spillover of the intervention effects. The rate of exclusions of older pupils considered not at risk in the same class fell as an indirect result of this intervention. Another study, of 837 primary school children that were orphaned and hailed from deprived areas (Cho et al., 2017), found no impact on school attendance, but a positive impact on academic attainment.

Table 8-4: Summary of the results of financial interventions (positive impact (✓), no impact (×))

N	Study	Programme	Ranking of the study	Impact on school attendance (or not)	Impact on academic attainment (or not)
1	Akresh et al. (2013)	Cash transfers	4*	✓	×
2	Evans et al. (2014)	Community-based CCT	3*	✓	✓
3	Fryer (2013)	Teacher incentives	2*	×	×
4	Cho et al. (2017)	School support intervention	2*	×	✓
5	Jukes et al. (2014)	SOFIE program	1*	✓	×

The evidence of the studies finding a positive impact on attainment was weaker. The two studies that reported positive effects on academic attainment had a sample attrition of approximately 13% (Cho et al., 2017; Evans et al., 2014). Attrition of sample may lead to potential bias, especially when the cases dropping out of the interventions have unique characteristics. In these circumstances, the remaining sample may not represent some of those who could affect the internal and external validity of the evidence (Barry, 2005). Furthermore, the results of these studies relied primarily on self-reporting, which may heighten the risk of bias.

The more promising study of the two is that by Evans et al. (2014), which showed a positive short-term effect on literacy whereby pupils were four percentage points more likely to be literate by the middle of the programme (i.e. after 18-21 months) from the baseline, falling to two percentages points by the end of the programme (i.e. after 31-34 months). In other words, the short-term effect of the conditional cash transfer intervention on the literacy achievement was higher than the long-term effects of the intervention.

Financial interventions seem promising for promoting school attendance, especially the conditional cash transfer interventions. The study was rated 4* in terms of the quality of evidence, meaning that the evidence of this study was reliable. The study was RCT-designed and included a large sample (n = 4,953 pupils), the attrition rate was low (4%), and the outcomes were based on standardised data for school attendance (school roster) and academic attainment (administrative data) (Akresh et al., 2013). Moreover, the reporting was helpful in assessing the quality of the study and the results showed that supporting parents with regular cash stipends can improve the attendance rate of children from disadvantaged backgrounds.

8.3.3.2 Counselling and mentoring interventions

As shown in Table 8-5, one of the selected studies, of 20 primary schools, found that counselling and mentoring interventions had a positive impact on school attendance and academic attainment (Snyder et al., 2009). The effect sizes were moderate to large (range = 0.5–1.1) for the examined outcomes (days of school absences and percentages of test scores). The programme targeted pupils at comprehensive school and their families. However, some essential information was missing, and this may have had a negative impact on the assessment of the evidence. The author did not report the included number of the individual samples and no mention was made of attrition. Therefore, the reliability of the evidence was medium (2*).

The other included studies (n = 4) found no impact on either school attendance or academic attainment from the implementation of the programmes. These studies were also rated medium to low (2* and 1*) in terms of their evidence. For example, one study of 96 pupils aged 14 to 15 (Austin, 2013) reported a different number of participants in different sections and the attrition size was not reported. Another study had a small sample size (n = 28 pupils) (Beyenhof, 2015). A further study included 213 schools but did not report on the individual sample size and was unclear on attrition (MacIver et al., 2016). The final included study had a fairly high

attrition rate of 36% (Cantu, 2013). Therefore, the evidence from these studies was not rigorous due to these shortcomings.

Consequently, the results of the counselling and mentoring intervention studies are mixed. As can be seen in Table 8-5, most of the included studies showed no impact on school attendance and academic attainment. However, the Positive Action (PA) programme was promising (Snyder et al., 2009). Although the information that would have bolstered any assessment of the evidence was missing, the protocol and implementations of the programme are promising for school attendance and academic attainment. The programme integrated pupil, teacher, and family participation to achieve more successful results.

This should not be taken to imply that counselling and mentoring programmes are not workable in terms of promoting school attendance and enhancing the academic attainment of pupils from disadvantaged backgrounds. However, the research evaluating these interventions was not comprehensive enough to enable the authors to claim with certainty that the evidence was completely reliable.

Table 8-5: Summary of the results of counselling and mentoring interventions (positive impact (✓), no impact (✗))

N	Study	Programme	Ranking of the study	Impact on school attendance (or not)	Impact on academic attainment (or not)
1	Cantu (2013)	School-based mentoring	2*	✗	✗
2	Snyder et al. (2009)	PA programme	2*	✓	✓
3	Austin (2013)	Effective Teens training	1*	✗	✗
4	Beyenhof (2015)	TeamMates programme	1*	✗	✗
5	MacIver et al. (2016)	Mentoring programme	1*	✗	✗

8.3.3.3 Out-of-school educational interventions

Table 8-6 shows that two of the included studies of these interventions had a positive impact on school attendance and academic attainment for disadvantaged pupils. One of these studies included 645 pupils at grades 10, 11, and 12 (grade 9 was excluded because the attendance data for these pupils was not available) (O'Donnell & Kirkner, 2014). There was no guarantee that the comparison group have not involved in another out-of-school programme. There was also no measure of socioe-conomic status for the comparison group, meaning that not all the participants may have been from low-income backgrounds.

The other study, of 119 pupils at grades 9 and 10, showed that these pupils were at-risk of school failure (Coats, 2015). However, the internal validity of this study's evidence might have been adversely affected by sample size and selection criteria, which did not implement any randomisation (the targeted group = 60 pupils).

The last study in this category, of 193 pupils at grades 6 and 8, found a positive impact for the programme on both school attendance and academic attainment for the targeted group (MacIver & MacIver, 2014). Although the attrition rate of the sample was approximately 3%, a figure which is relatively trivial, in absolute numbers it meant that 27 pupils were not included in the final analysis. Bearing in mind that the actual sample size was 166, an attrition number of 27 means that the sample was not large enough for such an optimistic evaluation. Further, due to the design of the study (QES), the possibility of unmeasured bias was heightened. In other words, potentially unmeasured factors contributed to the results of the comparison group, and thus this result might not have occurred only as a result of participation in the programme.

The mixed results of these interventions imply that disadvantaged groups of children need additional teaching time and effort. They also show that technology could inspire these pupils to attend school regularly. However, the quality of the claimed evidence was not rigorous enough to be deemed incontrovertible.

Table 8-6: Summary of the results of out-of-school educational interventions (positive impact (✓), no impact (✗))

N	Study	Programme	Ranking of the study	Impact on school attendance (or not)	Impact on academic attainment (or not)
1	MacIver and MacIver (2014)	A STEM Robotics Summer learning programme	2*	✓	✗
2	O'Donnell and Kirkner (2014)	YI programme	2*	✓	✓
3	Coats (2015)	Twilight programme	1*	✓	✓

8.3.3.4 Health interventions

Table 8-7 shows that the only included study that evaluated the effects of drug-treatment and health-education on school attendance and academic attainment of the disadvantaged found a positive impact on attendance but no impact on attainment (Davey et al., 2015). The study included 31,445 primary school children randomly allocated in the treated and controlled groups. Although the attrition rate of the sample was medium (18%), the authors reported their evaluation clearly in a way to help other researchers replicate their work and assess the validity of their evidence. Therefore, the study was rated 3* in terms of evidence.

The results show a link between health and school attendance, as expected and as has been reported clearly in a large number of previous studies. This result indicates that health interventions are promising for promoting school attendance for disadvantaged children, especially those suffering from an illness or at risk of suffering from an infectious disease.

Table 8-7: Summary of the results of health interventions (positive impact (✓), no impact (✗))

N	Study	Programme	Ranking of the study	Impact on school attendance (or not)	Impact on academic attainment (or not)
1	Davey et al. (2015)	School-based drug and educational programmes	3*	✓	✗

8.3.3.5 School reforms interventions

One study of 26 primary schools found a positive impact of school reforms on school attendance but no impact on academic attainment for pupils from disadvantaged backgrounds (Evans & Cowell, 2013). The quality of the evidence of the study was medium (2*) as the attrition of the sample was high, at 31%. The author did not report the individual-level sample.

One promising study of 39,738 pupils (26% of pupils were Latino, 41% Asian, 11% White, 10% African American, 61% were eligible for FSM, and 27% had EAL) found a positive impact of school reforms programmes on both school attendance and academic attainment of disadvantaged pupils (Sun et al., 2017).

The authors concluded that school reforms increased the average pupils' achievement in Maths and English and decreased the likelihood of unexcused absences by up to 16% in the third year of the programme's implementation. The study was rated 3* in terms of the quality of evidence because the rate of sample attrition was not clear and the pupils were not randomly assigned in schools before the intervention.

The results showed mixed evidence (see Table 8-8). The contrasting results could be due to the targeted sample characteristics and the sample's initial level of school attendance and academic attainment. Although the included studies targeted disadvantaged children, more than one definition of disadvantaged was used in each study. Another possible explanation of the contrasting results could be related to the success of the implementation of the reforms and the response of the schools' intakes.

Table 8-8: Summary of the results of school reforms interventions (positive impact (✓), no impact (✗))

N	Study	Programme	Ranking of the study	Impact on school attendance (or not)	Impact on academic attainment (or not)
1	Corrin et al. (2016)	Diplomas Now model	3*	✗	✗
2	Sun et al. (2017)	SIG programme	3*	✓	✓
3	Evans and Cowell (2013)	SOS programme	2*	✓	✗

8.3.3.6 Parental involvement interventions

As shown in Table 8-9, one study in this category was included in the review. This study involved 4,300 Year 6 middle-school pupils living in deprived areas of France (Avvisati et al., 2013). The study revealed a positive impact of parental involvement interventions on school attendance and academic attainment. However, the evidence of this study was rated 2* because there were large spillover effects of the programme on the behaviour of the participants' peers. Further, there was a threat of volunteer bias which may have affected the external validity of the results of the study. A group of parents that voluntarily participated in the programme might not have been representative of the target population of the study.

Therefore, the results of this study showed no strongly reliable evidence regarding the effectiveness of parental involvement in their children's education in terms of school attendance and academic attainment.

Table 8-9: Summary of parental involvement interventions (positive impact (✓), no impact (✗))

N	Study	Programme	Ranking of the study	Impact on school attendance (or not)	Impact on academic attainment (or not)
1	Avvisati et al. (2013)	The parents' school bag	2*	✓	✓

8.3.3.7 School engagement interventions for the disadvantaged

One study of 30 Roma Gypsy children at primary school age found a school engagement programme to be effective in promoting school attendance and academic achievement of the targeted group of disadvantaged children (Rosário et al., 2017). The attrition rate of the sample was 30%. Another study including 50 pupils with disabilities aged 8-15 from four schools found the intervention of inclusion education positively impacted school attendance and the academic attainment of the target group (Sakız, 2017). The attrition in the sample was not reported.

As shown in Table 8-10, although both evaluations of school engagement interventions for pupils from disadvantaged backgrounds showed positive effects for those interventions on both school attendance and academic attainment, the evidence was weak. Both studies were rated 1* in term of their evidence quality: the sample sizes were small and the attrition rate was either high or not given at all.

Table 8-10: Summary of engagement interventions for pupils from disadvantaged backgrounds (positive impact (✓), no impact (✗))

N	Study	Programme	Ranking of the study	Impact on school attendance (or not)	Impact on academic attainment (or not)
1	Rosario et al. (2017)	School-based programme for Roma Gypsy children	1*	✓	✓
2	Sakız (2017)	School-based programme for SWD	1*	✓	✓

8.3.3.8 Evidence on interventions for school attendance

This section presents the results of comparing the quality of the collected evaluation evidence on programmes for school attendance and academic attainment separately. Table 8-11 shows per rating score, the number of studies that suggested a positive impact on the outcome measures (school attendance and academic attainment) has been presented in the second column, then the number of studies that suggested no impact are presented in the third column.

Table 8-11 shows that majority of the study evaluations show positive impact on school attendance as a result of implementation. The range of evaluation evidence range between quality of medium (n=3) to high (n=1).

Table 8-11: Comparing the quality of research, direction of outcomes, and number of studies for school attendance

Quality of research	No. of studies- Positive impact	No. of studies -No impact
1*	4	4
2*	5	2
3*	3	1
4*	1	-

Therefore, the pattern is promising. These interventions could be helpful in improving attendance outcomes and related policy reforms.

8.3.3.9 Academic attainment evidence

In terms of academic attainment as an outcome of increasing attendance, the results are mixed (see Table 8-12). The study which generated high standards of evidence found no impact on academic attainment for the targeted group of disadvantaged pupils (Akresh et al., 2013). Most of the studies that reported a positive impact on academic attainment after implementing the attendance programmes relied on poor quality evidence.

Table 8-12: Comparing the quality of research, directions of outcomes, and number of studies for academic attainment

Quality of research	No. of studies- Positive impact	No. of studies- No impact
1*	3	5
2*	4	3
3*	2	2
4*	-	1

Although the evidence shows that cash transfer interventions or financial incentives positively enhanced the academic attainment of pupils from disadvantaged backgrounds (Evans et al., 2014), the long-term effects of the intervention were not considerable. Further, the most rigorous evidence indicates that although financial incentives or cash transfer programmes

promote school attendance they have no impact on academic attainment. This finding may indicate that the link between school attendance and academic attainment for disadvantaged pupils was not strong; other factors may play a more fundamental role in the academic attainment of such pupils.

Therefore, the results from this systematic review of school attendance interventions show that there were few promising interventions in terms of reliable evidence. No evaluation study showed that improvement in academic attainment of disadvantaged children was attributable solely or even primarily to promoting school attendance. The only highly quality study screened and selected in the review reported an improvement in school attendance, but no results were observed on targeted pupils' academic attainment.

There was no systematic review in the literature which investigated whether improvements in attendance were the principle reason for improvements in academic attainment. A range of systematic reviews explored the effectiveness of interventions on attendance ((Maynard et al., 2012), on school exclusions (Valdebenito et al., 2018), or on supporting particular groups of children (such as looked-after children) (Liabo et al., 2013). None of these reviews concluded that school attendance is the main factor underpinning academic attainment.

Although some of the included intervention studies reported that the programmes were effective in reducing absences or exclusions from schools, and some found an improvement in behavior related outcomes, the considerable flaws revealed in these studies makes the findings unreliable as there are significant implications for the trustworthiness of the findings. Some of the studies were based on small sample sizes, suffered from large subject attrition, and/or relied on anecdotal information or diffusion of treatment. Further, most of the selected studies (n = 14 studies) failed to point out the cost of the evaluated interventions. Therefore, it can be concluded that there is a scarcity of trustworthy generalisable evidence.

There is a strong possibility of biased interpretation in some findings of the studies included in this review. An extensive range of research has shown that humans are capable of cognitive biases (Hirsch & Mathews, 2012; Pronin, 2007). This bias in interpretation could be influenced by different factors such as individual expectations, beliefs, and memories (Allport, 1955). Some biases could result from personal or work interests. However, researchers are obligated to report all results, even the negative side-effects that result from the implementation of an

intervention, in this case programmes used to improve school attendance rates and the academic attainment of pupils from disadvantaged backgrounds (Gorard et al., 2017). This transparency of reporting would enable other researchers to better replicate the work and improve those interventions.

Another possible explanation of the findings in this review could be related to the complex needs of the targeted groups that were *not* supported via the programme implemented. This result could occur when implementing any programme without enough adequate understanding of the targeted group's needs, or because of a limited understanding of the social and psychological determining factors of human behaviour. For example, children who live in poverty are more likely to suffer from physical illness and/or mental health problems (Document Summary Service (DSS), 2009; Gill et al., 2017). Therefore, initiatives such as paying school fees and funding school uniforms could support these children at one level. However, their problems will not be entirely resolved by such a programme. Therefore, even if there were promising improvements in school attendance and/or academic attainment, such improvements will probably not be long-lasting.

8.4 Summary

This systematic review has presented a synthesis of evaluation studies focusing on policy and practice interventions aimed at promoting school attendance and its possible impact on academic attainment for pupils who miss attending school on regular basis as identified in their relevant school policies and they belong to disadvantaged backgrounds. From the evidence, cash transfer programmes were the most promising interventions for school attendance. However, according to the most rigorous evidence cash transfers may not enhance *academic attainment*. School reforms seem more effective at doing so. However, the quality of evidence that these studies offered was weak and lacking in trustworthiness.

The findings of this review could add to the evidence base that school attendance is important for children. However, enhancing the school attendance of deprived children without addressing other social characteristics underpinning deprivation will be most unlikely to improve academic attainment. The findings of this review have a number of implications for researchers and policymakers, a theme which will be addressed in the concluding chapter of this thesis.

CHAPTER 9 RESULTS OF THE INTERVIEWS

9.1 Introduction

Interviews with school teachers were an additional research tool for this study because the views of practitioners dealing with the issues related to school attendance were considered important as supplementary data to the research of the NPD database. As explained in Chapter 6, the interviews were semi-structured, allowing the participants to respond freely to a series of open questions. The following sections detail the main themes that emerged after the notes and transcripts of the interviews had been re-read carefully.

9.1.1 The relationship between school attendance and FSM eligibility

'The most problematic children in terms of school attendance are FSM children. They are the most absentees within the school.' (Participant 2)

'*The attendance of FSM children is challenging*.' (Participant 5)

A consensus among the participants was that there is a link between school attendance and FSM. This finding is consistent with the findings from this study's analysis of the NPD, which confirms the existence of a strong association between low economic status and school attendance which recurs in the literature, suggesting that poor school attendance is symptomatic of disadvantaged home backgrounds (Atkinson et al., 2000; Hallam, 1996; Whitney, 1994). Recent national figures also show that the overall absence rate of FSM pupils stood at 7.0%, compared to 4.0% for non-FSM pupils (DfE, 2017d). According to the same source, FSM pupils' persistent absence rates were twice as high as their peers who are not in receipt of FSM.

The results show a strong link between FSM status and school attendance. This result means that school absences tend to be higher in deprived areas (since FSM is an indicator of deprivation). Although there is no clear data to estimate which level of deprivation is more strongly linked to school attendance, addressing the needs of FSM pupils generally could contribute to promoting the school attendance rate of these pupils.

9.1.2 The gender gap in school attendance

'We do not notice a difference between boys and girls in school attendance. A pupil who used to attend school regularly continues to do so'. (Participant 3)

Although the finding of the NPD analysis showed that authorised absences for girls are slightly higher than for boys, the above interview extract purports no gender gap in terms of school attendance. One possible explanation for this latter finding could be related to the balanced rate of school attendance between boys and girls in this school.

'A big effect on girls' attendance is social problems. A girl has had a conflict with a group of friends [and] decides to stay off school for two or three weeks. Girls find it difficult to come back'. (Participant 1)

This extract as saying could be understood that relationships with friends influence girls' attendance rates and this is part of the reason for a gender gap in school attendance. It could also highlight one of the causes of school absences for girls (relationship issues with friends).

9.1.3 Causes of school absences

Although the NPD dataset does not go into detail about the possible reasons for school absences, the interviews highlight some reasons that might hinder school attendance. One reason was lack of parental involvement in their children's education.

'Low attendance students often have parents that do not engage or push their children to go to school.' (Participant 3)

Parents' attitudes and involvement in their children's education is one of the indicators of school attendance, as much of the literature has repeatedly pointed out (Reid, 1999). Studies have shown that a lack of parental involvement in the education of their children is more likely to be an issue among families living in challenging socio-economic circumstances (Reid, 2002c; Scanlan et al., 2003).

The second reason for school absences emerging from the interviews was unpaid caring.

'We can say that most of the school absences of girls are because they were hidden young carers. We know these girls miss school to take care of someone in the family'. (Participant 5)

Although no national figures exist to show how many young carers there actually are in the UK (Dearden & Becker, 2004), research has attributed the existence of this phenomenon at least

partly to a dearth of affordable care services. There have been attempts to investigate the link between young caring and education by some national organisations such as Careers Trust (Sempik & Becker, 2013), but the problem is still rather concealed, and little is factually or extensively known about this issue.

In sum, the results of the interviews appear to indicate that pupils' background characteristics are the main determinants of school attendance, a finding consistent with what was found in this study's analysis.

9.1.4 School interventions to promote school attendance

The interviews highlighted a number of interventions used by schools to promote school attendance for targeted groups of pupils. The first intervention was phone contact with pupils' parents or carers to discover and discuss the reason(s) for the absence.

'We contact the parents of the absentee children by phone and accept their excuses more often. In some cases, we do home visits.' (Participant 4)

The results show that phone contact is the first response of a school to school absences, possibly because phone calls are an easily accessible and cheap strategy through which the school can determine if a pupil is absent for a specific reason or might be absent without parental permission. Schools are responsible for protecting and safeguarding young people during school hours. According to one of the participants, in some circumstances, school personnel do home visits to pupils that are known to be experiencing difficult circumstances such as the death of a parent. However, contacting parents and knowing the cause of absences without changing the cause or taking action to minimise the longer-term effects of the absence causes will not change the difficult experiences the children are undergoing at that moment.

The second intervention raised was developing close relations with pupils.

'*Teachers get open and friendly with students and [try to] be someone that they can rely on and talk to if needed.'* (Participant 1)

Research has highlighted the role of successful social relationships between schools and pupils as a means of enhancing school enjoyment and the desire to attend (Gorard & See, 2011).

Therefore, effective relationships between teachers and pupils could promote and encourage pupils to attend school. However, some pupils continue to be absent because there might be other factors related to the home/family preventing them from attending school regularly.

The third intervention that was mentioned is rewarding pupils with a full attendance rate.

'*We reward our full attendance students by writing their names on the school display board, taking them on trips, and offering them a free meal such as sandwiches in the morning.*' (Participant 6)

Many schools attempt to boost attendance by giving rewards and prizes to pupils who have good attendance records to encourage other pupils to attend regularly. However, no strong evidence exists to show that such a policy has made a significant difference in the attendance rate of the peers of the rewarded pupils. Attendance rewards could give the winning children an 'inadvertent signal' that their rate of attendance is satisfactory and they have somehow earned a rest from school for a few days (Coughlan, 2018). Thus, attendance rewards may even worsen school attendance in some cases.

In sum, according to the participants, the above interventions were useful in promoting school attendance for some pupils but not for all. Thus, no school intervention policy seems to be effective in boosting attendance for persistent absentee groups.

9.2 Summary

The results of the interviews show that, according to teachers' perceptions, FSM status is the best indicator of poor school attendance. Although the interviewees did not highlight a gender gap in terms of school attendance, their responses showed that the attendance rate of girls might be adversely affected by their relationships more than the same concern impacts boys. Two causes of low school attendance were mentioned: lack of parental involvement in their children's education and unpaid caring. At the same time, four interventions were highlighted: phone contact with parents, home visits, developing harmonious relationships with students, and attendance rewards but no school attendance intervention works for all children.

CHAPTER 10 CONCLUSIONS AND IMPLICATIONS OF THE FINDINGS

10.1 Introduction

The final chapter of this PhD research project presents a summary of the key findings in response to the research questions and sketches a number of limitations of the study, possible future research directions in the field are outlined. Following this, a number of implications of the main research findings for government and policymakers and schools are set out.

10.2 Summary of the findings

This study was conducted to determine and explore patterns of school attendance and exclusions and any associations with academic attainment for KS4 pupils in state-funded schools in England. The following research questions were raised in this study:

- *Which pupils in England are recorded as absent, persistently absent, and/or excluded from school?*
- *To what extent do background characteristics, prior attainment, and school-type predict authorised absences, unauthorised absences, and/or exclusion from school?*
- *To what extent is absence and/or exclusion from school linked to pupils' academic attainment at KS4 once background characteristics and prior attainment are accounted for?*
- *Is there any evidence of effective interventions that have improved the school attendance behaviours of disadvantaged pupils and also positively impacted their academic attainment?*
- *What are the perceptions of teachers in England about the school attendance of pupils from disadvantaged backgrounds?*

The analyses were conducted to investigate patterns of school attendance and exclusions and to ascertain the extent to which school absences and exclusions, if at all, are linked with academic attainment. The rich dataset of the NPD was used as the primary source of the study. A systematic review of school attendance interventions was conducted to weigh the existing evidence of the employed interventions exploring the nature of school attendance interventions

and their impact on academic attainment of disadvantaged children. Finally, a series of small scale semi-structured interviews were conducted to explore the perceptions of school teachers on school attendance and exclusions and associated challenges. A summary of the findings is presented next.

10.2.1 Research Question 1

Which pupils in England are recorded as absent, persistently absent, and/or excluded from school?

This research question was intended to identify any patterns that underpin and explain school absences and exclusions in state-funded schools in England and, if so, what these patterns are. Based on the rich, extensive and varied picture that the NPD draws of the national figures for school attendance and exclusions, the findings reveal that a girl pupil of KS4 age of white British ethnicity, eligible for FSM, speaking English as a first language, and having a SEN was more likely than other demographics to be a school absentee at that level. In terms of school exclusions, the pattern that emerged from the data was that a pupil of KS4 age from a minority ethnicity, eligible for FSM, speaking English as a first language, and having a SEN was more likely to be excluded from school than other demographics. Therefore, both cases show that persistent absentees and excluded pupils are more likely from disadvantaged backgrounds.

Although the current study used the same database from the NPD as the one used by the DfE to run the analysis, the dataset was handled with great caution in this PhD research project. All missing data were treated before any analysis was conducted. The missing data were analysed to explore the characteristics of these pupils and their rates of school attendance, exclusions, and academic attainment. In addition, the findings were not considered complete after a simple attempt at analysis; the analysis graduated from simple to more complex tests to confirm the prior emergent figures and patterns. Frequencies, cross-tabulations, calculating means, and effect sizes were conducted to obtain the most sophisticated and reliable results. The analysis used both pupil and school-level data to arrive at its conclusions.

10.2.2 Research Question 2

To what extent do background characteristics, prior attainment, and school-type predict authorised absences, unauthorised absences, and/or exclusions from school?

This research question was set to determine the indicators of school attendance and exclusions. The findings reveal that pupils' characteristics from birth (age in months, gender, SEN, ethnicity, FSM status, and language group) were likely determinants of both authorised and unauthorised absences by the models. An extensive body of literature has consistently shown patterns of strong associations between the background characteristics of pupils and school attendance (Atkinson et al., 2000; Hallam, 1996; Malcolm et al., 2003b; Reid, 2002b; Whitney, 1994; Zhang, 2003). The pattern that emerged from this analysis of the two types of school absences also indicated that prior authorised absences are reliable predictors of future absences, and unauthorised absences can also predict future unauthorised absences.

These findings were obtained from regression models in which the model controlled for other variables. Both binary logistic and multiple linear regression models were run before the conclusions were reached. Variables were entered in the models in separate blocks to check the influence of each group of variables in terms of its power of prediction (see Chapter 6).

However, regression models were run with different samples picked randomly from the dataset to create comparable groups of pupils, and, although not definitive, the findings obtained from binary logistic regression could be considered sound indicators of school exclusions. The findings of the binary logistic regression models showed that pupils' characteristics from birth (age in months, gender, SEN, ethnicity, FSM status, and language group) could predict school fixed exclusions at KS4. A pattern emerged showing that older boys within the group, eligible for FSM, having a SEN, and from a minority ethnicity, are likely to be on a fixed school exclusion. However, the obtained dataset did not help to predict variations in school exclusions. Therefore, multiple linear regression did not add any valid findings to the study. Most notably, the results did not reveal a link between school attendance and exclusions, possibly because excluded pupils are also recorded as absentees in school records.

10.2.3 Research Question 3

To what extent is absence and/or exclusion from school linked to pupils' academic attainment at KS4 once background characteristics and prior attainment are accounted for?

The purpose of this research question was to explore any associations between school attendance, exclusions, and academic attainment, and the findings revealed that there are indeed associations between these three variables. These findings were obtained from Pearson correlation results and were anticipated. However, notably, the association between school attendance and academic attainment is not as strong as has been found in DfE studies (DfE, 2016b).

The finding here showed that pupils' characteristics from birth (age, gender, SEN, ethnicity, FSM, and EAL) are key determinants of academic attainment at KS4 as shown by the models. This finding was obtained from both binary logistic and multiple linear regression models that delivered consistent results. In addition, prior academic attainment at KS2 predicts subsequent school outcomes at KS4 more than school absences do. This finding is significant and valuable in a national climate where the government and policymakers acknowledge a strong link between school attendance and academic attainment. Large sums of money have been spent to promote school attendance, whereas this study shows that pupils' characteristics from birth (age, gender, SEN, FSM, and EAL) are more strongly linked with academic outcomes than school attendance.

In terms of school exclusions, the findings from the binary logistic regression model showed an association between fixed exclusions and academic attainment at KS3. However, the association was not strong enough to predict fixed school exclusions at KS4. Hence clear and definitive conclusions could not be drawn from the available data on school exclusions.

10.2.4 Research Question 4

Is there any evidence of effective interventions that have improved the school attendance behaviours of disadvantaged pupils and also has a positive impact on their academic attainment?

This research question was inspired by the findings of the study's analysis of the NPD, which showed that disadvantaged groups of children have the highest recorded number of absences

and exclusions from state-funded schools in England. However, complex analysis of the NPD dataset shows that the link between school attendance and academic attainment is weak. Therefore, the fourth research question was devised to explore the existing available evidence on school attendance interventions that have targeted disadvantaged groups of pupils and measure the influence of such interventions on the academic progression of the targeted group.

The findings showed that although cash transfer interventions that give funds to parents or carers could promote school attendance, no impact on academic attainment was found. This finding was obtained from a systematic review that searched a number of relevant sources to discover the most rigorous evidence on school attendance interventions that were effective in promoting school attendance and enhancing the academic attainment of certain targeted groups. The findings showed that promoting the school attendance of pupils from disadvantaged backgrounds without intervening to improve the background characteristics that underpin disadvantage are unlikely to be successful in promoting school outcomes.

10.2.5 Research Question 5

What are the perceptions of teachers in England about school attendance of the disadvantaged pupils?

The final research question explored the perceptions of school teachers, workers who have direct experience of school attendance challenges. The findings were obtained from small-scale semi-structured interviews, conceived as an additional source of data. The participants were given free reign to discuss the issues related to school attendance.

The findings here showed that FSM status is a solid determinant of school attendance in the model. No gender gap was mentioned by the participants although, according to the teachers' perceptions, attendance by girls is more likely to be affected by relationships with their friends than is the case for boys. The participants referred to two reasons behind school absences: a lack of parental involvement in their children's education; and the issue of unpaid caring. The findings also showed that popular school attendance interventions used by schools were phone contact with pupils' parents, home visits in some cases, developing harmonious relations with pupils, and rewarding pupils that have good school attendance records.

10.3 Limitations of the study

Like any research project, this study has a number of limitations. This section presents these limitations, which it is hoped will be remedied or accounted for in future research in the field. One of the limitations was the unavailability of certain crucial data related to reasons for absences, exclusions, and types of SEN. The lack of this information could have led to certain findings overestimating school attendance and exclusions. Knowing the causes of absences and exclusions could recalibrate the findings and shed light on the main reasons behind absences and exclusions such as, for example, the gender gap in school exclusions, a finding which may change or completely disappear when reasons for exclusions were obtained. The lack of types of SEN was also a limitation; there are different types of SEN and thus a variety of difficulties which could be explored to explain the finding that pupils with a SEN are more likely to be excluded from schools. As the findings show, school exclusion data was not in itself sufficient to explain clearly school exclusions.

Another limitation of the study relates to the systematic review of school interventions. The systematic review may have missed some studies. Most of the selected studies in the review did not run a cost-benefit analysis. The cost of interventions and a cost-benefit analysis are essential for assessing the implemented programmes. The sample attrition rates and the small sample sizes used in some studies in the review also limited this PhD research project. Some studies did not report the attrition rate or the causes of the attrition. All this information would have been useful to develop a more thorough assessment of the quality of the evidence provided by the reviewed studies. Moreover, the studies selected used different definitions for school attendance and used different measures of the outcomes, such as number of absences, excused absences, dropouts, exclusions and truancies. These variations could well have affected the findings of these studies and resulted in a biased comparison of the different interventions.

10.3.1 Implications for further research

The findings of this study highlighted a range of indicators showing associations between school attendance, exclusions, and academic attainment. The strong association between SEN and exclusions needs to be investigated in more depth, including generating specific data related to types of SEN, the schools that pupils with SEN attend, and their home circumstances.

Interviews with SEN pupils and their families may be beneficial to see how schools meet the needs of this group of pupils and how these children and their families perceive the services that they receive so as to determine the factors underpinning absences and exclusions.

The findings of the systematic review raised different implications for researchers. In terms of clarity and completeness of reporting researchers should carefully consider their research reports. The reports should be transparent and convey the entire process of the study, including the side-effects of the intervention (e.g. subjects' attrition rate, possibility of risks such as spillover effects or other diffusions during the programme's implementation). These limitations matter in evaluating the claimed evidence. Researchers should strive at all times for impartiality and objectivity in their research designs, and transparency and completeness could help others to replicate the work and thereby achieve the most reliable results. Moreover, these reporting issues could prevent the wasting of unnecessary funds by sponsors as well as save the time and efforts of both teachers and pupils.

10.4 Implications for government and policymakers

The findings of this study showed that FSM is the best determinant of school attendance by the model. Therefore, addressing the needs of disadvantaged groups of pupils is a priority if schools are to improve both school attendance and academic outcomes. According to the findings of this study's systematic review of the relevant literature on interventions, cash transfers might be helpful for addressing the needs of pupils from disadvantaged backgrounds. Supporting low-income families with regular stipends may induce them to concentrate more on their children's education and encourage them to attend school more regularly. The findings showed that providing free meal alone does not help disadvantaged children to attend school more regularly. Pupils from poor background need additional support services that can help in attending schools regularly.

The findings also suggested that collecting more reliable and comprehensive data on the socio-economic circumstances of children from disadvantaged backgrounds would be a step towards improving our understanding of school attendance issues. Existing measures of the background poverty of children through the prism of FSM and 'EverFSM6' have their limitations (Gorard & Siddiqui, 2019). It was argued that FSM and 'EverFSM6' might be ignoring children who are still suffering from the prior effects of living in disadvantaged circumstances (Gorard &

Siddiqui, 2019). Therefore, finding new or additional indicators of poverty that show the length of time which a child has been living in poverty and children who are always eligible for FSM is crucial for measuring the impacts of this indicator over time.

In addition, it is necessary to consider schools' intakes (especially those including a high percentage of disadvantaged children) when assessing attendance, exclusions, and academic attainment rates. This consideration could reduce pressures on schools and offer a more balanced judgment of their progress, which may enable them to address the concerns of their pupils' needs rather than being concerned about the data that they need to present to Ofsted.

The findings of the study also showed a weak link between school attendance and academic attainment. Moreover, no evidence was found to show that penalising parents results in promoting school attendance (Kendall et al., 2004; Zhang, 2004). However, the DfE insists that every school day matters (DfE, 2016b). Parental penalties are also still used because of school absences of children. According to the news, a parent has been found guilty by the Supreme Court for taking his 7 years old daughter for a week of holiday (BBC News, 2017). The same report noted that the court ordered the father to pay a fine of £2,000. While the finding of this study could mean that missing a small number of school days does not necessarily disturb the learning progress of children. There is thus a need to revise the policy of penalising parents for their children's school attendance. This needs more robust evidence to determine penalties can improve school attendance. It would also be beneficial to distinguish between parents who provide children with opportunities to learn new things outside the school setting, such as trips and visits to educational sites like museums, and parents who do not indulge in such outings. It would also be beneficial to distinguish between the types absences of children that are from a disadvantaged background or middle-class families.

In terms of school exclusions, the findings showed that the data for school exclusions were unhelpful in actually predicting school exclusions. The unavailability of essential information related to school exclusions seemed to mask the real situation. The exclusion data was limited to certain school exclusions and types and the reasons underpinning such exclusions (not included in this study). The existing literature relates school exclusions to mental health symptoms and suggests that a high proportion of excluded pupils experience mental health difficulties (Gill et al., 2017). Studies have attributed school exclusions to racist beliefs (Okonofua & Eberhardt, 2015), parents' mental health problems, poverty, and bad parenting

(Cooper & Stewart, 2013). Developing school exclusion data by providing more information on pupils' mental health, ethnicity, experience and knowledge of the behavioural challenges facing school teachers and headteachers, as well as the mental health and the history of school offending of the parents and integrating such information into studies would be a means of better determining the influential factors that lead to school exclusions.

10.4.1 Implications for practice

The findings showed that prior school absences are reliable indicators of future school absences and that *type* of absence (authorised or unauthorised) is the best indicator of further school absences of the same type. Therefore, primary schools could identify PAs in the earliest stages of schooling and intervene to promote the attendance of these pupils, helping to reduce school absences thereafter.

According to the findings, girls are more likely to miss school days than boys, with the evidence pointing to a link between gender, poverty, and school attendance (Benshaul-Tolonen et al., 2019; Marsh, 2017). One reason for this may well be 'period poverty', and hence providing sanitary pads for girls from disadvantaged backgrounds could help to promote their attendance. However, there is a range of reasons could explain the school absences of girls such as caring roles for a younger sibling or disabled parent and different domestic chores.

The findings also showed that disadvantaged pupils were most likely to be recorded as persistent absentees and/or excluded from schools compared to other demographics. However, crucial data were missing for certain background characteristics such as FSM and SEN status, factors which indicate disadvantaged groups. Therefore, school principals could play a role in completing the data of pupils' characteristics to identify the disadvantaged and assess their needs to create an effective intervention to promote both school attendance and academic attainment.

The findings of the study showed that children's backgrounds have a crucial influence on their academic attainment. It would thus be beneficial to involve parents more in their children's education. In particular, schools that have a high proportion of absenteeism need to engage parents through regular meetings and discussions that demonstrate to parents the role of school

attendance in their children's progress and post-education life chances. Schools could also use the opportunity of engaging parents to identify the factors behind low school attendance.

Schools need to provide their teachers with adequate knowledge about school absences and exclusions such as factors that may cause school absences and exclusions, different behavioural problems, and strategies to deal with such issues through training courses. These courses should be planned and supervised by specialists with experience of working with disadvantaged children. The main goal of these courses would be to identify mechanisms that enable teachers to ascertain the needs of at-risk children in order to mentor their progress and inform local authorities of what is needed.

Future evaluations of interventions should look forward to the long-term impacts of policies. Most of the studies evaluated the short-term impacts of the interventions; however, these are susceptible to change over time. Few studies have examined the long-term outcomes of these interventions for school attendance and academic attainment.

Future evaluations of interventions should also conduct cost-benefit analyses. Many evaluations do not report the costs of the programme's implementation. This cost is an essential element for evaluating any intervention because it allows costs to be set against achieved outcomes (i.e. cost effectiveness). Such a systematic analysis would save money by identifying which interventions provide the most desirable effects related to their costs.

10.5 Concluding Remarks

The study was inspired by national concerns about school attendance, exclusions, and their potential associations with academic attainment. The research aimed to identify patterns of school attendance and exclusions and their relationships with academic attainment for KS4 pupils in state-funded schools in England.

However, this study suggests that the association between school attendance and academic attainment at KS4 is not as strong as the DfE has proposed (DfE, 2016b). Pupils' background characteristics (age in months, gender, SEN, ethnicity, FSM, EAL) and prior academic attainment (KS2 and KS3 Maths and English attainment) are more strongly associated with academic progression at KS4. FSM status is the better predictor of school attendance according to the findings of this study. Therefore, policy and practice need to be cautious when devoting

public funds to interventions merely to promote school attendance without ignoring the specific needs of pupils from disadvantaged backgrounds.

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APPENDICES

Appendix 1: Multiple Linear Regression Models to predict authorised absences at KS4

Table 1: Summary of multiple linear regression models to predict sum of authorised absences at KS4

No.	Block	R^2
1	**Pupils' characteristics from birth**	0.03
2	**Primary school factors**	0.08
3	**Secondary school factors**	0.19

N=548,320 pupils

Table 2: Regression Coefficients of multiple linear models to predict sum of authorised absences at KS4

No.	Block	Variables in Block	Standardised (B) Coefficients
1	**Pupils' characteristics from birth**	Age in months	0.013
		Female (vs male)	0.063
		SEN (vs non-SEN)	0.055
		Non-White (vs White)	-0.027
		FSM (vs non-FSM)	0.016
		Non-English (vs English)	-0.035
2	**Primary school factors**	KS2 Maths point scores	-0.006
		KS2 English point scores	0.015
		KS2 authorised absence sessions	0.090
		KS2 unauthorised absence sessions	0.001
3	**Secondary school factors**	KS3 Maths point scores	-0.011
		KS3 English point scores	-0.004
		KS3 authorised absence sessions	0.346
		KS3 unauthorised absence sessions	0.047
		KS4 school mobile	0.019
		Selective school	0.072

Dependent variable: Sum of authorised absences at KS4

Appendix 2: Binary Logistic Regression Model to predict unauthorised absences at KS4

Table 1: Summary of binary logistic regression models to predict unauthorised absence at KS4

No.	Block	Percent Correct
0	**Base**	59.6
1	**Pupils' characteristics from birth**	63.1
2	**Primary school factors**	65.0
3	**Secondary school factors**	69.3

N= 548,320 pupils

Table 2: Percentage of predicted unauthorised absence at KS4 by the binary logistic regression models

No.	Bock	Not absence	Absence	Overall Percentage
1	**Pupils' characteristics from**	88.9	25.1	63.1
2	**Primary school factors**	87.0	32.6	65.0
3	**Secondary school factors**	88.5	40.9	69.3

Table 3: Regression coefficient obtained from binary logistic regression model to predict unauthorised absence at KS4

No.	Block	Variables in Block	Exp (B)
1	**Pupils' characteristics from birth**	Age in months	1.023
		Male (vs female)	0.972
		SEN (vs non-SEN)	1.134
		Non-White (vs White)	1.207
		FSM (vs non-FSM)	1.534
		Non-English (vs English)	1.144
2	**Primary school factors**	KS2 Maths point scores	0.988
		KS2 English point scores	0.986
		KS2 authorised absence session	1.008
		KS2 unauthorised absence sessions	1.032
3	**Secondary school factors**	KS3 Maths point scores	0.989
		KS3 English point scores	0.992
		KS3 authorised absence sessions	1.019
		KS3 unauthorised absence sessions	1.091
		School mobile (vs not mobile)	1.360
		Non-selective school (vs selective)	1.285

Dependent variable: Sum of unauthorised absences Yes, No

Appendix 3: Multiple Linear Regression Models to predict unauthorised absences at KS4

Table 1: Summary of multiple linear regression models to predict unauthorised absence at KS4

No.	Block	R^2
1	**Pupils' characteristics from birth**	0.04
2	**Primary school factors**	0.09
3	**Secondary school factors**	0.25

N=548,320 pupils

Table 2: Regression Coefficients of two multiple linear models to predict unauthorised absence at KS4

No.	Block	Variables in Block	Standardised (B) Coefficients
1	**Pupils' characteristics from birth**	Age in months	0.010
		Female (vs male)	0.004
		SEN (vs non-SEN)	0.040
		Non-White (vs White)	-0.014
		FSM (vs non-FSM)	0.065
		Non-English (vs English)	-0.014
2	**Primary school factors**	KS2 Maths point scores	-0.004
		KS2 English point scores	-0.010
		KS2 authorised absence sessions	0.026
		KS2 unauthorised absence sessions	0.072
3	**Secondary school factors**	KS3 Maths point scores	-0.029
		KS3 English point scores	-0.010
		KS3 authorised absence sessions	0.106
		KS3 unauthorised absence sessions	0.388
		KS4 school mobile	0.033
		Selective school	-0.008

Dependent variable: Sum of unauthorised absences

Appendix 4: Multiple Linear Regression Models to predict school fixed exclusions at KS4

Table 1: Summary of multiple linear regression models to predict school fixed exclusions at KS4

No.	Block	R^2
1	**Pupils' characteristics from birth**	0.02
2	**Primary school factors**	0.02
3	**Secondary school factors**	0.03

N=548,320 pupils

Table 2: Regression Coefficients of multiple linear models to predict school fixed exclusions at KS4

No.	Block	Variables in Block	Standardised (B) Coefficients
1	**Pupils' characteristics from birth**	Age in months	0.006
		Female (vs male)	-0.054
		SEN (vs non-SEN)	0.064
		Non-White (vs White)	-0.0004
		FSM (vs non-FSM)	0.040
		Non-English (vs English)	-0.029
2	**Primary school factors**	KS2 Maths point scores	-0.010
		KS2 English point scores	-0.015
		KS2 authorised absence sessions	-0.011
		KS2 unauthorised absence sessions	0.008
3	**Secondary school factors**	KS3 Maths point scores	-0.025
		KS3 English point scores	-0.014
		KS3 authorised absence sessions	0.050
		KS3 unauthorised absence sessions	0.054
		KS4 school mobile	0.027
		Selective school	0.0002

Dependent variable: Total school fixed exclusions at KS4

Appendix 5: A 'sieve' to assist in the estimation of trustworthiness of research findings

Design	Scale	Dropout	Data	Threats	Rating
Strong design for RQ	Large number of cases (per comparison group)	Minimal attrition, no evidence of impact on findings	Standardised, pre-specified, independent	No evidence of diffusion, demand, or other threat	4*
Good design for RQ	Medium number of cases (per group)	Some attrition (or initial imbalance)	Pre-specified, not standardised or not independent	Little evidence of diffusion, demand or other threat	3*
Weak design for RQ	Small number of cases (per group)	Moderate attrition (or initial imbalance)	Not pre-specified but valid in context	Evidence of diffusion, demand or other threat	2*
Very weak design for RQ	Very small number of cases (per group)	High attrition (or initial imbalance)	Issues of validity or appropriateness	Strong indication of diffusion, demand or other threat	1*
No consideration of design	A trivial scale of study, or N unclear	Attrition not reported	Poor reliability, too many outcomes, weak measures	No consideration of threats to validity	0*

(Adapted from Gorard et al., 2017)

Appendix 6: Question guidelines for the interviews with school teachers

- What are the common characteristics of students with low attendance rate? If there is any?
- What are the common reasons for school absences recorded in your school?
- How do you deal with school absenteeism?
- Do you have a specific strategy/s to promote school attendance?
- To what extent do you find these strategies work in raising the rate of school attendance of disadvantaged children?

Appendix 7: Ethical Approval

Shaped by the past, creating the future

21 December 2015

Haifaa Alabbad
PhD Education

haifaa.alabbad@durham.ac.uk

Dear Haifaa

The impact of the patterns of pupils' attendance on the academic attainments and wide outcomes (England,KS4)

I am pleased to inform you that your application for ethical approval for the above research has been approved by the School of Education Ethics Committee. May we take this opportunity to wish you good luck with your research.

P. M. Holmes

Dr. P. Holmes
Chair of School of Education Ethics Committee

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Appendix 8: Classification of school attendance models power of prediction

Table 1: Percentage of predicted authorised absence at KS4 by six binary logistic regression models

Blocks	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6			Average		
	NO	YES	Overall	NO	YES	Overall	NO	YES	Overall	NO	YES	Overall	NO	YES	Overall	NO	YES	Overall	NO	YES	Overall
Pupils' characteristics from birth	55.5	56.1	55.8	56.0	55.7	55.9	69.1	48.6	58.8	49.2	68.0	58.6	59.6	56.7	58.1	57.5	54.3	55.9	57.8	56.6	57.2
Primary school factors	66.8	55.9	61.3	67.5	54.6	61.0	66.7	57.5	62.1	60.4	64.7	62.6	63.3	61.2	62.2	63.5	57.6	60.5	64.7	58.6	61.6
Secondary school factors	74.9	60.2	67.6	76.1	59.8	67.9	71.5	63.6	67.5	74.0	62.9	68.4	74.3	62.0	68.1	75.1	59.7	67.4	74.3	61.4	67.8

Table 2: Percentage of predicted unauthorised absence at KS4 by the binary logistic regression models

No.	Bock	Not absence	Absence	Overall Percentage
1	Pupils' characteristics from birth	88.4	27.2	63.4
2	Primary school factors	86.8	34.1	65.3
3	Secondary school factors	88.4	42.1	69.5

N=554,145 pupils

Appendix 9: Classification of school fixed exclusions models power of prediction

Table 1: Percentage of predicted school fixed exclusions at KS4 by six binary logistic regression models

	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6			Average		
Blocks	**NO**	**YES**	**Overall**	**NO**	**YES**	**Overall**	**NO**	**YES**	**Overall**	**NO**	**YES**	**Overall**	**NO**	**YES**	**Overall**	**NO**	**YES**	**Overall**	**NO**	**YES**	**Overall**
Pupils' characteristics from birth	64.6	61.4	63.0	80.2	55.0	67.6	71.6	57.1	64.3	65.7	67.3	66.5	73.9	55.9	65.0	76.0	56.4	66.2	72.0	58.8	65.4
Primary school factors	68.1	62.2	65.1	77.9	67.0	72.4	71.7	63.8	67.7	64.7	69.3	67.0	72.0	59.8	65.9	75.0	59.9	67.5	71.5	63.6	67.6
Secondary school factors	71.8	66.6	69.2	84.0	74.8	79.4	76.0	68.5	72.2	70.1	71.5	70.8	73.6	66.2	69.9	75.0	67.2	71.1	75.1	69.1	72.1

Appendix 10: Classification of academic attainment model power of prediction

Table 1: Percentage of predicted achieving 5 GCSEs or equivalent A*-C including English and Maths by binary logistic regression models

No.	Bock	Not achieve	Achieve	Overall Percentage
1	Pupils' characteristics from birth	44.7	87.2	69.0
2	Primary school factors	65.4	87.6	78.1
3	Secondary school factors	72.0	87.4	80.8

N=554,145 pupils

Appendix 11: Summary of the included school attendance interventions

N	Study	Program	Aim	Cost	Duration of the program	protocol	Ranking
1	(Akresh et al., 2013) (Burkina Faso)	Cash transfers	to estimate the impact of conditionality of cash transfers on education	Approximately $ 21 per pupil per year	2 years	Cash stipend for parents	4*
2	(Evans et al., 2014)	Cash transfer	to assess the success of implementation of such program by members from the community	Approximately $20 per pupil per year	2 years	Cash stipend for parent	3*
3	(Fryer, 2013) (USA)	Teacher incentives	to promote pupils 'academic performance and school attendance and culture	Approximately $ 75 million for 3 years	2 years	Teacher incentives	2*
4	(Cho et al., 2017) (Kenya)	School support intervention	to improve children' academic outcomes	_____	4 years	Paying school fees and uniform costs	2*
5	(Jukes et al., 2014) (Malawi)	Strengthening Open and Flexible learning to Increase Educational access (SOFIE) program	to prevent drop out	Overall $ 43 per pupil demand at risk, and $ 8.5 per enrolled pupil	One year	Providing educational resources	1*
6	(Austin, 2013) (USA)	Effective Teens training	to promote school attendance, academic progress and reduce discipline referrals	_____	9 weeks	Handbook (texts) and lectures	1*
7	(MacIver et al., 2016) (USA)	Mentoring program	to prevent drop out	_____	3 years	Meetings	1*
8	(Beyenhof, 2015) (USA)	TeamMates mentoring program	to promote school graduation and post-secondary education	_____	One year	Meetings	1*

9	(Snyder et al., 2009) (USA)	Positive Action (PA) program	to develop pupils' and character behavior	_____	One year	Lectures, activities, games, and discussions	2*
10	(Cantu, 2013) (USA)	School-based mentoring program	to encourage pupils to achieve their potential	_____	One year	Meetings	2*
11	(O'Donnell & Kirkner, 2014) (USA)	High School Youth Institute (YI)	to promote the academic attainment of low-income youths	_____	One year	Instructional classes	2*
12	(Coats, 2015) (USA)	Twilight program	to promote the academic attainment of at-risk pupils of school failure	Approximately $ 80,000	One year	Instructional classes	1*
13	(MacIver & MacIver, 2014) (USA)	A STEM Robotics Summer learning program	to enhance pupils' academic achievement in maths and technology	_____	Five weeks	Instructional classes	2*
14	(Davey et al., 2015) (Kenya)	School-based drug and educational program	to enhance health education and school progress	_____	2 years	Public lectures, wall charts, and regular presentations, and drug treatment	3*
15	(Evans & Cowell, 2013) (UK)	Solution oriented School (SOS) program	to help schools realise the importance of various factors such as a consistent behaviour policy and a supportive environment	_____	One year	Training courses for school staff	2*
16	(Corrin et al., 2016) (USA)	Diplomas Now model	to promote school graduation	_____	2 years	Change of school structure and resources, and training for school staff	3*
17	(Sun et al., 2017) (USA)	School Improvement Grants (SIG)	to improve the progress of underperforming schools	_____	3 years	Change of school structure and resources, and training for teachers	3*

18	(Avvisati et al., 2013) (France)	"La Mallette des Parents" (the parents' schoolbag) (p:9)	to enhance parents' involvement to their children's education	Overall, Approximately € 1,500 per school, 12 € per pupil	One year	Meetings	2*
19	(Rosário et al., 2017) (Portugal)	School-based program	to promote Gypsy children's engagement and school success	_____	4 years	Daily invitations to go to school	1*
20	(Sakız, 2017) (Turkey)	School-based program	to promote disabled pupils' school achievement, attendance and engagement	_____	One year	Training packages for school staff, parents	1*